

CAM/WACCM Joint WG Discussion

Feb 2014











CAM Development Timelines

The path towards CMIP6



WACCM Graphical Timeline

CAM5.5 Available				
2014		2015	2016	CESM2
Releases	1.0.6/1.2.2: SC, stability fixes	WACCM-CCMI		WACCM6 WACCM6X
Development	GW CCMI Chemistry Prognostic Volcanic Ionosphere Electro	Aero		
Joint Decisions	Vertical and Horizontal Resolution Dynamical Core/Transport Scheme GW			
Integration		Prognostic Vol Test with CAM Iterate with CA	canics 5+ Physics AM, other WG	
			WACCM	'Finalization'

Vertical Resolution

- Increased vertical resolution?
 - -CAM?
 - WACCM?
- How high should the model top be for CAM?

Momentum Parameterizations

• Can we unify CAM and WACCM Gravity Wave Drag parameterizations?

Dynamical Core/Transport

- What will be the dy core for 1 deg CAM?
- What are target horizontal resolutions?
 - CAM
 - WACCM

Volcanic Aerosols

• Preferred aerosols:

– Prescribed Volcanic file?

- Prognostic MAM Volcanic Aerosols?

Other CAM/WACCM Discussion

• Timelines? Does 'tentative' plan work?



Vertical Grids & WACCM IC



ESSL's Climate & Global Dynamics

NCAR

vertical resolution and QBO tests in FV WACCM4

R. Garcia

vertical resolution as a fuction of altitude

WACCM4 FV QBO /no QBO new and old L110 grid

1984

1982

1978

1980

new L110 grid

effgw_beres=0.1

effgw_beres=0.6

new L132 grid

high resolution (0.5 km) through most of the stratosphere (to 40 km)

QBO in L132 vs L110 run

L132

UBAR [M/S], lat 0.947368 J.02 · J.05 0.1 0.2 -60 0.5 1. 2. 5. 10. 20. -50. 100. 1951 1952 1953 1954 1955 1956

L110

tem_diag0_WA4_L132.nc

rgarcia 12.02.2014;0;54 tem_diag_refc1.004_1950-1957.nc

rgarcia 12.02.2014 11:03