

Intro to CAM challenge exercise

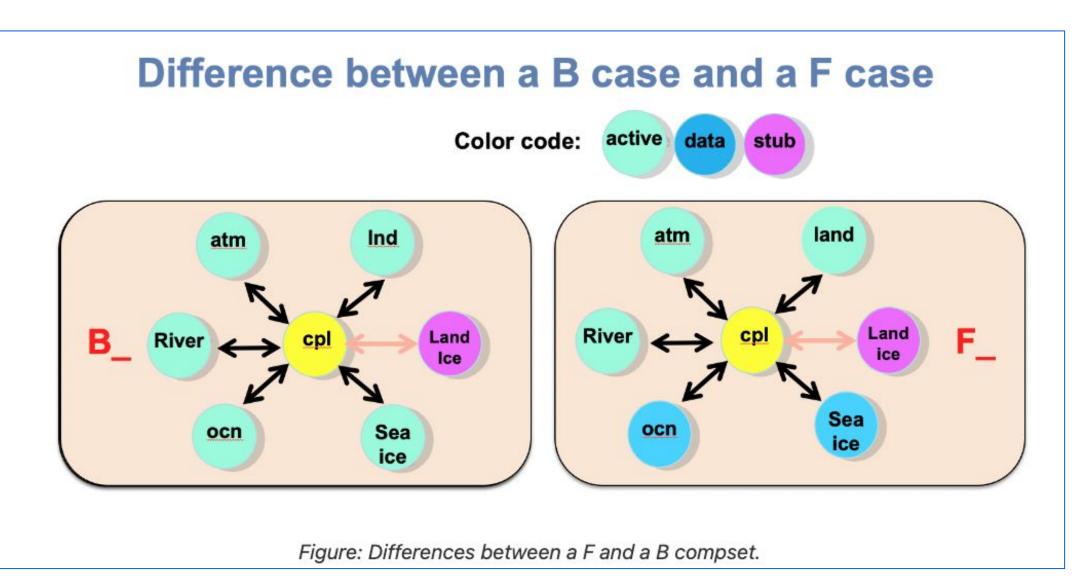
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CESM tutorial, 12 July 2023

This material is based upon work supported by the National Center for Atmospheric Research, which is a major facility sponsored by the National Science Foundation under Cooperative Agreement No. 1852977.

The plan for CAM challenge exercise: F compsets



"I can only show you the door. You're the one that has to walk through it"

(The Matrix, 1999)



What are we going to do today?

Challenge Exercises	/
CAM	/

1: Control case: F2000climo

2: Historical compset: FHIST

3: Starting FHIST from spunup state in 1850

4: Increase orographic height over the western US

4: Modify sea surface temperature in the tropics

6: Adjust threshold for deep convection over land

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Welcome to the CESM Tutorial		The CESM2 cor
Introduction	~	experiments. A
Prerequisites for Success	~	settings is calle
Basics	~	In the previous
Simple XML Modifications	~	experiments wit
Namelist Modifications	~	temperature da
Troubleshooting runtime errors	~	• F2000clim
Source Modifications	~	• F2010clim
Diagnostics	~	• FHIST use
Challenge Exercises	^	
CAM	^	D
1: Control case: F2000climo		
2: Historical compset: FHIST		
3: Starting FHIST from spunu state in 1850	ıp	
4: Increase orographic height over the western US	t	
4: Modify sea surface temperature in the tropics		B_ R
6: Adjust threshold for deep convection over land		
CAM-chem/WACCM	~	
CICE	~	
CISM	~	

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Learning Goals

What is a F compset ? Overview of CAM Challenge Exercises

a F compset? promponents can be combined in numerous ways to carry out various scientific or software particular mix of components, along with component-specific configuration and/or namelist ed a component set or compset. chapter, we have run experiments with the B compset. In this chapter we will run the ith the F compset. The F compsets use prescribed ocean (observed sea-surface ata) and prescribed sea-ice (observed sea-ice thickness and area) mo uses climatological forcings from around year 2000 mo uses climatological forcings from around year 2010 se time varying forcing)ifference between a B case and a F case Color code: active data stub Ind land River + Land cp Land ocr Sea ice

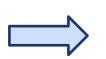
Figure: Differences between a F and a B compset.

https://ncar.github.io/CESM-Tutorial/README.html

Guidelines for today

Challenge Exercises	^
CAM	^
1: Control case: F2000c	limo
2: Historical compset: F	HIST
3: Starting FHIST from s state in 1850	spunup
4: Increase orographic I over the western US	height
4: Modify sea surface temperature in the tropi	ics

6: Adjust threshold for deep convection over land



Go step by step into the chapter:

• Challenge Exercices CAM

Exercises

- Do the Control case: F2000climo
- Do at least one of the other exercises

Tutorial queue

NCAR

Welcome to the CESM Tutorial

Introduction V Prerequisites for Success Basics V Simple XML Modifications V Namelist Modifications \sim Troubleshooting runtime \sim errors Source Modifications V V Diagnostics

Challenge Exercises

Resources NCAR HPC Environment

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Special Queues

We have a special queue every day for running to ensure you get through the Cheyenne queues quickly and get your jobs run. These are only active for portions of each day during our lab sessions and change for each session. So you should be sure you are using the correct reservation queue. Schedule for Tutorial Reservation Queues

Mon	14:00 - 17:	00 cheyenne	R1787445
Tue	10:30 - 12:	00 cheyenne	R1787503
	14:00 - 17:	00 cheyenne	R1787518
Wed	10:30 - 12:	00 cheyenne	R1787531
	14:00 - 17:	00 cheyenne	R1787589
Thu	13:30 - 17:	00 casper	R7873845
Fri	13:30 - 17:	00 chevenne	R1787669

If (Friday 13:30-17:00) then ./xmlchange JOB_QUEUE=R1787669 --force

If (another time) then
./xmlchange JOB_QUEUE=regular

NCAR HPC Environment

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Questions?