



2024 CESM Tutorial

Daily Logistics

Cecile Hannay

Climate & Global Dynamics, NSF NCAR

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Code of Conduct

Here we value respectful dialogue, please . . .



CGD's Vision: A Culture of Respect & Belonging

<https://www.cgd.ucar.edu/about/diversity>

UCAR DEI Office

<https://www.ucar.edu/who-we-are/diversity-inclusion/office>

Report ethics concerns

<https://www.ucar.edu/who-we-are/ethics>

| Norm | Meeting Agenda and Action |
|--|--|
| Share the Air OR Share Speaking Time | MEETING AGENDA: specify time for individuals with different and varied perspectives ACTION: Designate a facilitator (who encourages sharing). Speak concisely when it's your turn. |
| Show Appreciation & Acknowledge Teamwork | MEETING AGENDA: Include bright spots as an agenda item; create collaborative time during meetings ACTION: Include your team member's name on your slides, name who provided you with the idea |
| Listen to Understand | MEETING AGENDA: everyone summarizes ; write and share meeting minutes ACTION: Ask real questions to learn more , not to argue - for example, "Tell me more" |
| Communicate Context | MEETING AGENDA: Items or discussion start with background information ACTION: Describe the goal/purpose of the conversation/meeting |
| Value New Ideas & Encourage Innovation | MEETING AGENDA: specify time for new ideas/innovation, ACTION: "Tell me more," and build on others ideas - "yes, that's great , and.... (not but) " |
| Offer Constructive Feedback | MEETING AGENDA: make time for review and reflection ACTION: ask "what worked well?" Check your understanding. Ask "what feedback would be meaningful?" |

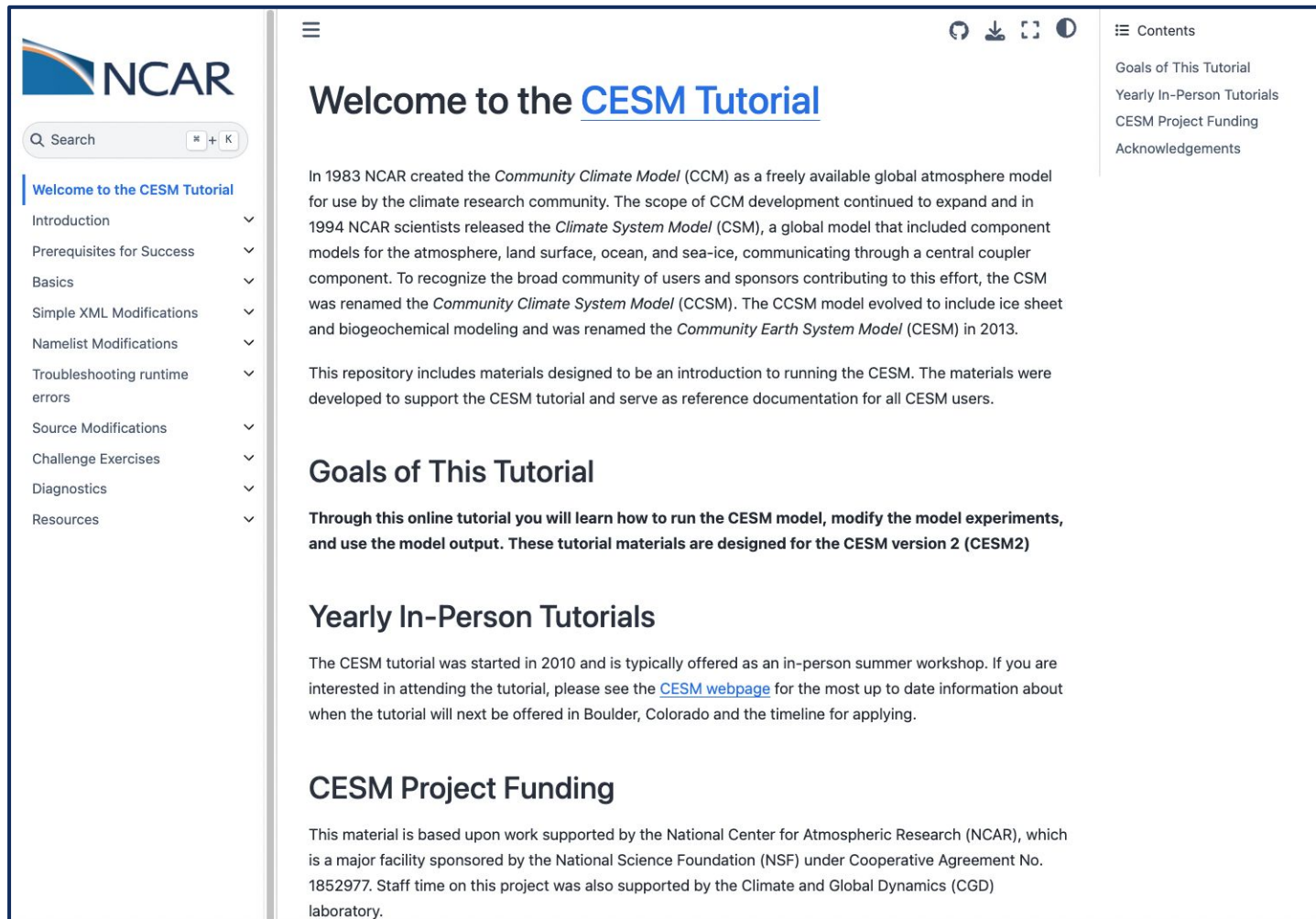
Meet a scientist

Assignments have been made. Check you email

| TUESDAY | | | | | |
|---------------------|---------------------------------------|----------------------------|-----------------------|----------------------|---------------------------------|
| Scientist | Room | Participant | Participant | Participant | Participant |
| Will Wieder | Chapman | Aandishah Samara | Shihan Li | Song Jiang | |
| Christina McCluskey | Inner Cafeteria | Abdulamid Fakoya | Ashok Gupta | George Gyabaah | Sisi Chen |
| Frank Bryan | Director's Conference | Hillary Beckmeyer | Sandra Manulat | Arghya Goswami | Cassia Cai |
| Peter Lawrence | Inner Cafeteria | Massimo Martina | Ran Qi | Lyssa Freese | Ishrat J. Dollan |
| Bette Otto-Blies | Outer Damon | Ana Isabel Gonzalez Mendez | Benjamin Tiger | Ibuki Sugiura | Meredith Parish |
| Jiang Zhu | Outer Cafeteria | Stephen Cropper | Becca Cleveland-Stout | Andrew Feder | Emily Wisinski |
| | | | | | |
| Wednesday | | | | | |
| Scientist | Room | Participant | Participant | Participant | Participant |
| Marika Holland | Director's Conference | Yu-Chi Lee | Samuel Brenner | Theo Carr | Chen Zhang |
| Kristen Krumhar | Inner Damon | Chun Yin Anthony Chan | Prani Nalluri | Zhuyi Wang | |
| Alice DuVivier | Cafeteria | Maria Inês Buco Cajada | Cyric Ng | Evan Meeker | Pappu Paul |
| Brian Dobbins | Cafeteria | Cameron Cummins | Luca Jeongsuk Oh | Temitope S. Egbebiyi | |
| Adrianna Foster | Chapman | Ben Felzer | Tyler Tatro | Trent Robinett | |
| Gunter Leguy | Outer Damon | Sioumin Tsao | Saidat Rasaq-Balogun | | |
| | | | | | |
| Thursday | | | | | |
| Scientist | Room | Participant | Participant | Participant | Participant |
| Jesse Nusbaum | Cafeteria | Andrew Reiser | Qingyuan Yang | Emily Hayden | Madeleine Beckner |
| Hui Li | Chapman Room | Cong Gao | Fouzia Fahrin | Ishrat J. Dollan | |
| Peter Lauritzen | Director's Conference | Noah Kravette | Bob Payne | Hsing-Hung Chou | |
| Monica Morrison | Cafeteria | Carly Frank | Frank Mackenzie | Selena Zhang | |
| Isla Simpson | Inner Damon | Holly Thomas | Yifei Fan | Sam Bartusek | Prasad Shelke |
| Meg Fowler | Outer Damon | Greta Miller | Julia Miller | An-Yi Huang | José Luis Del Castillo Castillo |

Did everyone find the lab documentation?

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



The screenshot shows the NCAR GitHub repository page for the CESM Tutorial. The page has a dark blue header with the NCAR logo and a search bar. The main content area is white with a dark blue sidebar on the left containing a navigation menu. The main content area has a dark blue header with the title "Welcome to the CESM Tutorial" and a sub-header "Goals of This Tutorial". The main content area contains several sections of text, including "Introduction", "Prerequisites for Success", "Basics", "Simple XML Modifications", "Namelist Modifications", "Troubleshooting runtime errors", "Source Modifications", "Challenge Exercises", "Diagnostics", and "Resources". The "Goals of This Tutorial" section states: "Through this online tutorial you will learn how to run the CESM model, modify the model experiments, and use the model output. These tutorial materials are designed for the CESM version 2 (CESM2)".

Welcome to the CESM Tutorial

In 1983 NCAR created the *Community Climate Model* (CCM) as a freely available global atmosphere model for use by the climate research community. The scope of CCM development continued to expand and in 1994 NCAR scientists released the *Climate System Model* (CSM), a global model that included component models for the atmosphere, land surface, ocean, and sea-ice, communicating through a central coupler component. To recognize the broad community of users and sponsors contributing to this effort, the CSM was renamed the *Community Climate System Model* (CCSM). The CCSM model evolved to include ice sheet and biogeochemical modeling and was renamed the *Community Earth System Model* (CESM) in 2013.

This repository includes materials designed to be an introduction to running the CESM. The materials were developed to support the CESM tutorial and serve as reference documentation for all CESM users.

Goals of This Tutorial

Through this online tutorial you will learn how to run the CESM model, modify the model experiments, and use the model output. These tutorial materials are designed for the CESM version 2 (CESM2)

Yearly In-Person Tutorials

The CESM tutorial was started in 2010 and is typically offered as an in-person summer workshop. If you are interested in attending the tutorial, please see the [CESM webpage](#) for the most up to date information about when the tutorial will next be offered in Boulder, Colorado and the timeline for applying.

CESM Project Funding

This material is based upon work supported by the National Center for Atmospheric Research (NCAR), which is a major facility sponsored by the National Science Foundation (NSF) under Cooperative Agreement No. 1852977. Staff time on this project was also supported by the Climate and Global Dynamics (CGD) laboratory.

Rough guidelines for the lab

Day 1: Basics

Day 2: Simple xml modifications

Day 3: Namelist, Troubleshooting, Source Mods

Day 4: Challenge exercises

Day 5: Diagnostics

BUT

This is a **self-paced lab**.

We all come from different backgrounds. Some people will move faster, and some will move slower. It's completely okay.

How to use project number and reservation queue

- To use project number (in theory it is set in your profile)

```
./xmlchange PROJECT=UESM0013
```

- How do I use the tutorial reservation queue (active during lab)

during lab: use tutorial queue

(don't use for xml exercise 1 part II)

```
cd /glade/u/home/$USER/code/my_cesm_code/cime/scripts
./create_newcase --case ~/cases/b1850.basics --res f19_g17 --compset B1850

cd ~/cases/cases/b1850.basics
./case.setup

qcmd -q tutorial -- ./case.build

./xmlchange JOB_QUEUE=tutorial --force

./case.submit
```

outside lab: use main queue

(use for xml exercise 1 part II)

```
cd /glade/u/home/$USER/code/my_cesm_code/cime/scripts
./create_newcase --case ~/cases/b1850.basics --res f19_g17 --compset B1850

cd ~/cases/cases/b1850.basics
./case.setup

qcmd -- ./case.build

./xmlchange JOB_QUEUE=main

./case.submit
```

Questions ?

