

AGU Town Hall

Recording of the part of the talk that was cut short due to time limitation

E3SM: A Decade of Earth System Modeling Effort at the Department of Energy

Xujing Davis
Asmeret Asefaw Berhe
Gary Geernaert
Dave Bader
Ruby Leung
Mark Taylor
Renata McCoy

E3SM as an Open Science Model Development Project

Renata McCoy, LLNL

E3SM Chief Operating Office & Project Engineer



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E3SM Wins Gordon Bell Prize for Climate Modeling, SC23

acm Association for Computing Machinery

Specific Types of Contributions
ACM Gordon Bell Prize for Climate Modelling
Innovations in applying high-performance computing to climate modelling applications

*"The Simple Cloud-Resolving
E3SM Atmosphere Model
Running on the Frontier Exascale System"*

U.S. DEPARTMENT OF ENERGY Office of Science

ACM Gordon Bell Prize for Climate Modelling 2023
PRESENTED TO
Mark A. Taylor, Peter M. Caldwell, Luca Bertagna, Conrad Clevenger,
Aaron S. Donabue, James G. Foucar, Oksana Guba, Benjamin R. Hillman,
Noel Keen, Jayesh Krishna, Matthew R. Norman, Sarat Sreepathi,
Christopher R. Terai, James B. White III, Andrew G. Salinger,
Dangqing Wu, Renata R. McCoy, L. Ruby Leung, David C. Bader

FOR The Simple Cloud-Resolving E3SM Atmosphere Model Running on the Frontier Exascale System

SC23

SCREAMv1
Himawari

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Himawari

SC23

SCREAM Lead
Lead Author

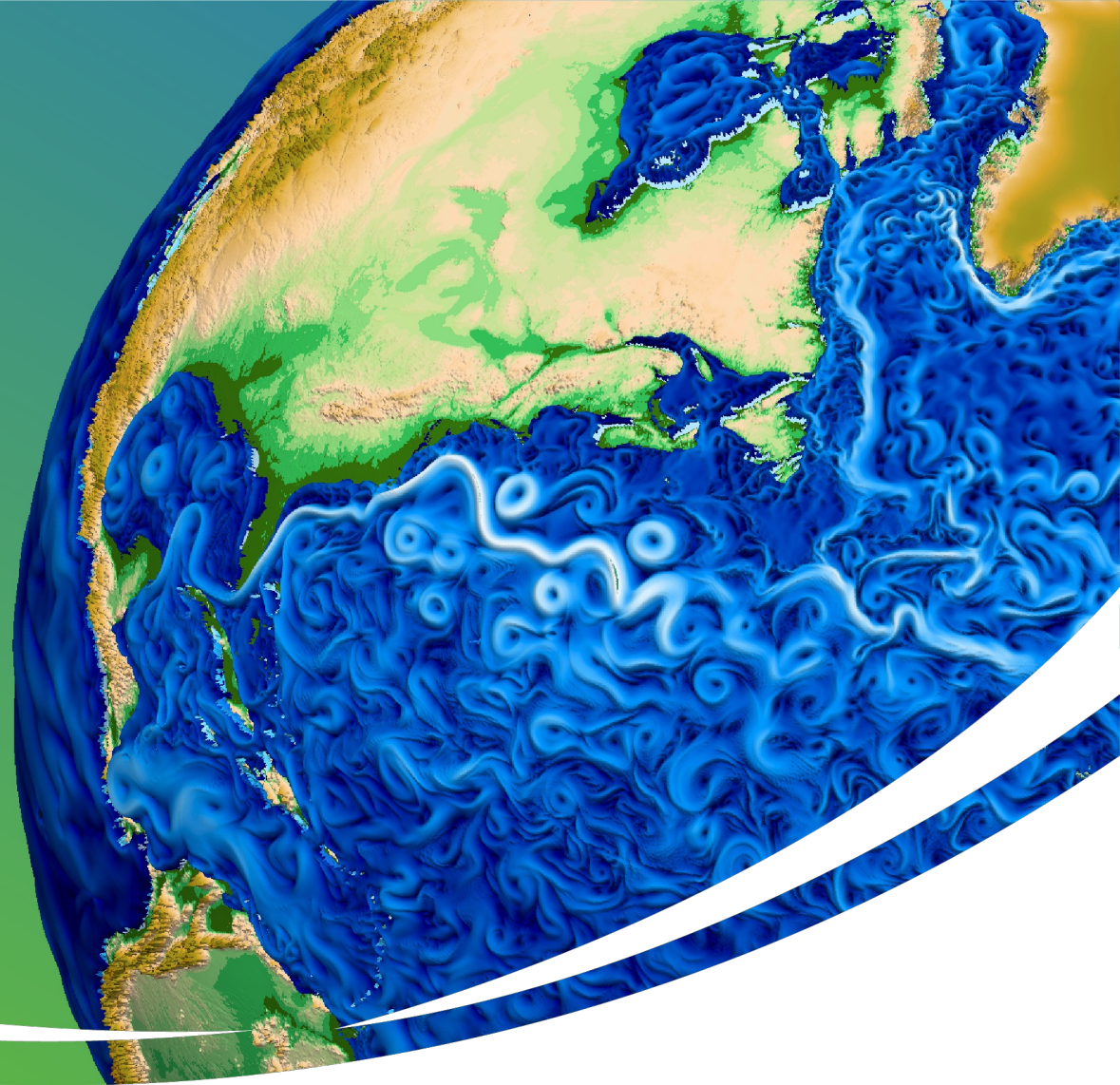
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Open Science Development Model

- E3SM is **Open Development Code!!**
 - As of the first data release (Apr 2018), E3SM is freely available on GitHub
- All in **E3SM tools** are **open-source** development tools
 - <https://e3sm.org/resources/tools/>
- **Data** from all major, campaign simulations are **available to all, published on [ESGF](#)** *
 - Few months delay between the production and publication to ESGF to publish an overview paper
- Support for code and data (limited)
 - Support for “**scientifically validated**” **compsets / configuration** used in simulation campaigns
 - Supported versions:
 - [maint-v1.0](#), [maint-v1.1](#), [maint-v1.2](#), [maint-v2.0](#), [maint-v2.1](#),
 - Guaranteed to run on the **E3SM-supported DOE LC centers**



External project's early access to data or internal documentation

Projects can submit a **collaboration request** specifying:

- What data/simulation/early access information they need
 - What research are they planning to do
 - Specify an E3SM Point of Contact (POC)
 - Agree to collaborate and include the E3SM POC in your publication
-
- **Fill in the doc at**
 - https://e3sm.org/about/collaboration/collaboration_request/



Documentation, Webinars, Online Tutorials

- Extensive documentation on the **Confluence public site**
 - <https://acme-climate.atlassian.net/wiki/spaces/DOC>
- Diagnostics and analysis tools
 - <https://e3sm.org/resources/tools/>
- Documentation and online tutorials
 - <https://e3sm.org/about/events/e3sm-tutorials/>
- Webinars and presentations
 - <https://e3sm.org/about/events/all-hands-presentations/>



First In-person Hands-on Tutorial Workshop @ NERSC

- May 7-10, 2024
- At NERSC
 - National Energy Research Scientific Computing Center (NERSC)
Lawrence Berkeley National Lab in Berkeley, CA.
- Applications
 - Announce via E3SM and EESSD-related email lists in December
 - Priority to DOE projects
 - <https://e3sm.org/announcing-the-e3sm-tutorial-workshop-at-nersc>
- The tutorial will encompass:
 1. Lectures on earth system simulation and the model components of E3SM.
 2. Practical sessions on running E3SM, modifying components, and analyzing data.
 3. Best practices for utilizing the model and potentially contributing to its development.
- Will be **recorded** and available on **E3SM YouTube**
 - Lectures, examples, class notes



E3SM Communication

- **E3SM Website** <http://e3sm.org>
- **Public Confluence** for
 - Developer's documentation: <https://acme-climate.atlassian.net/wiki/spaces/DOC>
 - E3SM Conferences: <https://acme-climate.atlassian.net/wiki/spaces/ECM>
- **E3SM quarterly "Floating Points" Newsletter** provides:
 - Latest news
 - Research Highlights
 - Project vision and Roadmaps
 - **Self subscribe:**
 - [email listserv@listserv.llnl.gov](mailto:listserv@listserv.llnl.gov) with the email body: 'subscribe E3SM-news'
- **E3SM YouTube Channel** with seminars, webinars, and tutorials
 - <https://www.youtube.com/@e3sm-project>



November 30, 2023 [View In Browser](#)

E3SM Floating Points, Nov '23: E3SM Wins Gordon Bell Prize for Climate Modeling.



E³SM Energy Exascale Earth System Model
FLOATING POINTS

News from DOE's state-of-the-science Earth system model development project.
Editor in Chief: Renata McCoy

From the Program Manager

Welcome to the Winter issue of E3SM newsletter ...
On November 16th, at the Supercomputing Conference (SC23), it was announced that E3SM wins the inaugural Gordon Bell Prize for Climate Modeling. It is an incredible honor for E3SM to receive such a prestigious prize among our well-accomplished national and international peers ...
[Read more of Dr. Davis' message.](#)



Project News



E3SM Wins the Gordon Bell Prize for Climate Modeling

We are proud to announce that in November 2023, at the Supercomputing Conference (SC23) in Denver, E3SM was awarded the Gordon Bell Prize... [Read more.](#)



DATA Release

E³SM
v2.0 NARRM
v1.0 High-Res
v1.0 & v2.0 LENS

Data Releases: v2.0 NARRM and Large Ensembles and More

Three data categories were added: E3SMv2 North America Regionally Refined Model (NARRM), E3SMv1.0 high resolution data, and the Large Ensembles (LENS) simulation ecosystem data. ... [Read more.](#)



Leadership Meeting
Nov 2023, Bethesda, MD

Summary of the E3SM Leadership Meeting

E3SM Leadership Team held an in-person meeting in Bethesda, MD, focusing on long-term strategy and project support including: communication, documentation, tutorials, code review, and best practice standards. ... [Read more.](#)



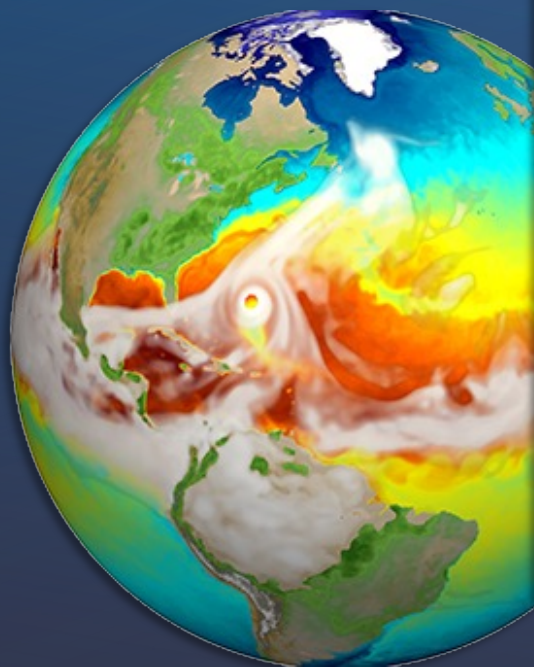
E³SM Tutorial **NERSC**

Announcing the E3SM Tutorial Workshop at NERSC

The first ever in-person E3SM Tutorial Workshop will be held during May 7-10 at the National Energy Research Scientific Computing Center (NERSC) at Lawrence Berkeley National Lab in Berkeley, CA. ... [Read more.](#)

Thank You!

e3sm.org





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Office of
Science



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SC23
Denver, CO



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E3SM-related sessions on AGU: <https://tinyurl.com/a8yvvy958>

