

CESM OCEAN MODEL WINTER WORKING GROUP MEETING

February 7-8, 2024

Wednesday, February 7

* All times are MST; **Speakers:** please leave 5 min at the end of your slot for questions.

Time	Topic	Speakers
<i>Main Seminar Room and Hybrid</i>		
8:50	Welcome and Logistics	Co-chairs
9:00	Coupling a particle-in-cell wave model for efficient sea state estimates with Earth system models	Momme Hell
9:20	CICE-WW3-MOM6 coupling requirements	David Bailey
9:40	A consistent set of boundary layer wave and vertical mixing options for CESM3	Bill Large
10:00	Modular Ways to have Waves in CESM3.0	Paul Hall
10:20	<i>Discussion: Waves and Ocean PBL Physics in CESM3</i>	
10:40	BREAK	
11:00	The TEPEX observational campaign -- opportunities for ocean model improvement	Anna-Lena Deppenmeier
11:20	Updates on the CESM high-resolution simulations	Fred Castruccio
11:40	From nutrients to fish: Impacts of mesoscale processes in a global CESM-FEISTY eddying ocean model framework	Kristin Krumhardt
12:00	LUNCH BREAK	
13:00	Mapping the global variation of ocean alkalinity enhancement efficiency for carbon dioxide removal	Mengyang Zhou
13:20	Impulse response functions as a framework for quantifying carbon uptake associated with ocean alkalinity enhancement	Elizabeth Yankovsky
13:40	MARBL in MOM6	Keith Lindsay
14:00	BREAK	
14:20	A scale-dependent vertical structure for mesoscale energy backscatter parameterizations	Wenda Zhang
14:40	Mesoscale eddy-induced sharpening of oceanic tracer fronts and its parameterization	Yueyang Lu
15:00	Progress towards implementing a stochastic backscatter scheme in MOM6	Ian Grooms
15:20	How can we effectively combine backscatter and isopycnal height diffusion in eddy-permitting models?	Houssam Yassin
15:40	<i>Discussion: Neutral Physics in CESM3</i>	
16:00	ADJOURN	

Thursday, February 8

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Time	Topic	Speakers
<i>Main Seminar Room and Hybrid</i>		
8:50	Welcome and logistics	
9:00	Parameterizing vertical turbulent mixing coefficients in the ocean surface boundary layer using machine learning-neural networks and equation discovery	Aakash Sane
9:20	Data-driven parameterization of mesoscale eddies constrained with physics	Pavel Perezhogin
9:40	Exploring the power of machine learning to tune tracer diffusivities offline	Gustavo Marques
10:00	A strategy to automatically calibrate a mesoscale-resolving coupled ocean and sea ice model against observations based on the OMIP protocol	Greg Wagner
10:20	<i>Discussion: New Physics and Machine Learning Approaches</i>	
10:40	BREAK	
11:00	Comparing models and observations on the OSNAP line	Gokhan Danabasoglu
11:20	Progress on CESM data assimilation and regional modeling	Dan Amrhein
11:40	Why are we still making the Boussinesq approximation in ocean climate models?	Bob Hallberg
12:00	LUNCH BREAK	
13:00	Impacts of ocean model resolution on conditions near the Antarctic Ice Sheet	Mira Berdahl
13:20	Towards an improved ice shelf basal melt parameterization	Claire Yung
13:40	Towards a new vertical coordinate to optimally resolve ocean mesoscale eddy dynamics in high-resolution models	Rachel Robey
14:00	The adaptive grid (AG) coordinate in MOM6	Andy Hogg
14:20	BREAK	
14:40	New forcing datasets for ocean sea-ice modeling	Gokhan Danabasoglu
15:00	Future development for ocean and climate modelling in Australia	Andrew Kiss
15:20	Towards the CESM3 ocean component	Gustavo Marques
15:40	<i>Discussion – OMWG Plans for CESM3.0 and Beyond</i>	
16:15	ADJOURN	
16:30	<i>Unofficial gathering at Southern Sun Brew Pub</i>	

