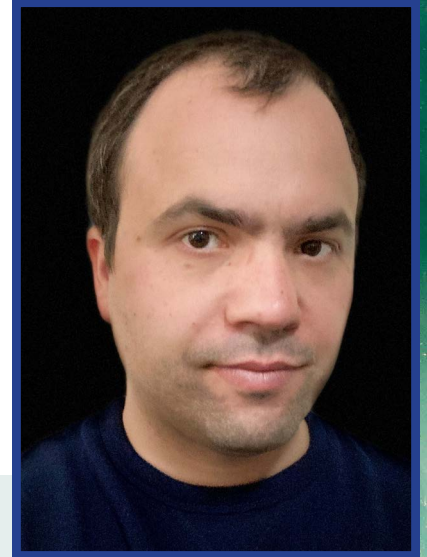


Raphael Dussin

*CPAESS Associate Scientist at NOAA Geophysical
Fluid Dynamics Laboratory (GFDL)*



Freshwater Forcing of Ocean Models

DATE: Wednesday, September 17, 2025

TIME: 11:00 AM – 12:00 PM MT (VIRTUAL)

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Raphael Dussin has been a UCAR/CPAESS colleague since 2019 and he is located at NOAA/GFDL where he works on numerical ocean modeling using the MOM6 code, with a focus on mixing parameterizations and air/sea fluxes. His previous work has involved the use of the Regional Ocean Modeling System to study the California Current System, leading studies that analyze the physical and biogeochemical responses of this region to climatic perturbations. He has also been instrumental in the development of the DRAKKAR Forcing Set 5, which is widely used to drive global and regional ocean models.

SUMMARY: Atmospheric reanalyses are a great resource for many applications, including driving numerical models of the ocean. However, they are not constrained by strict heat and freshwater conservation rules and hence often need some adjustments to provide adequate ocean surface fluxes. In this presentation, we review some of the corrections to atmospheric variables made by the oceanographic community, with a particular focus on freshwater fluxes. This includes a deep dive into progress made in modeling precipitation and a method to adjust them to a set of observations without losing the sought-after synoptic scales provided by reanalyses.

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