

Montag, 10.06.2024, 15.00 Uhr

Sonderkolloquium

Dr. Raphaela Vogel

(Universität Hamburg)

“The importance of mesoscale processes for the fate of trade cumulus clouds”

Mesoscale processes like cold pools and gust fronts occur everywhere on Earth and they are an essential element of severe storms. But now we realize that they might also be relevant for climate. The multi-scale interactions in which mesoscale processes are interwoven, from the mm-scale of rain drops to the large-scale circulation, were long out of the range accessible to both traditional Earth system models and high-resolution large-eddy simulations. Emerging tools like global coupled storm-resolving simulations, together with new observations and innovative methods to extract process-oriented products now offer the basis for critical advances in understanding the role of mesoscale processes for the radiative budget and hydrological cycle. In this presentation, I will show recent results demonstrating the importance of shallow mesoscale circulations and cold pools for cloud amount and cloud organization in the trades, and discuss two new tools that we're developing to advance the physical understanding of the role of mesoscale processes for the fate of trade cumulus clouds.

Link: <https://uni-leipzig.zoom-x.de/j/63101753211?pwd=9JbdTP28SE3mcJObHpAcQjDZdallyX.1>

Ort: LIM, Prager Straße 24, Seminarraum Arktis