

Precipitation and organization of shallow convection during EUREC4A

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Shallow cumuli fields exhibit patterns of various shape and structure, commonly denoted as mesoscale organization, and often associated with precipitation. Because clouds, their organization and precipitation are strongly interlinked, understanding either might require understanding both. Therefore, we investigate the role of precipitation for the organization of shallow convection and vice versa. To do so, data from the EUREC4A measurement campaign in the western tropical Atlantic in January and February 2020 is exploited. We investigate how much variability in shallow cloud organization can be explained by variability in shallow precipitation on scenes of convection with a scale of a couple hundred kilometers. We plan to analyze how precipitation area and intensity vary day-to-day and with different measures of organization. Therefore, measurements from the C band radar PoldiRad, the HAMP Radar on the research aircraft HALO and GOES satellite are compared to high resolution ICON simulation data.

Author: RADTKE, Jule (Universität Hamburg)

Co-authors: NAUMANN, Ann Kristin (Max Planck Institute for Meteorology); AMENT, Felix (Universität Hamburg)

Presenter: RADTKE, Jule (Universität Hamburg)

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