Use EUREC4A measurements & ICON to investigate

What is the role of wave-cloud coupling in changing cloud statistics?
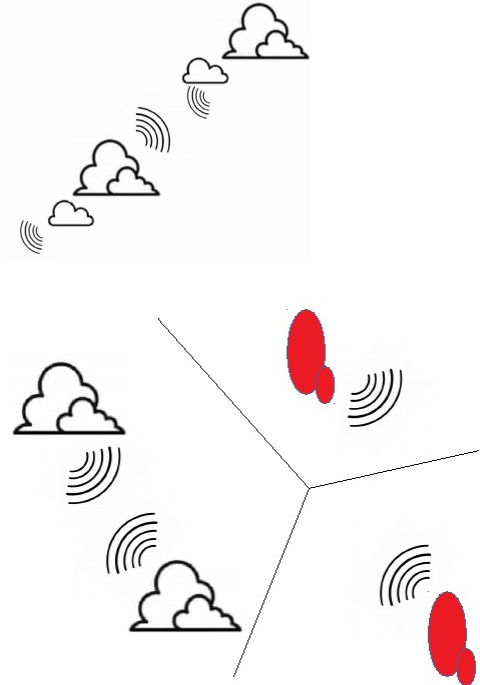
What is the role of wave-cloud coupling in organizing convection?

Observations & moist model & dry model
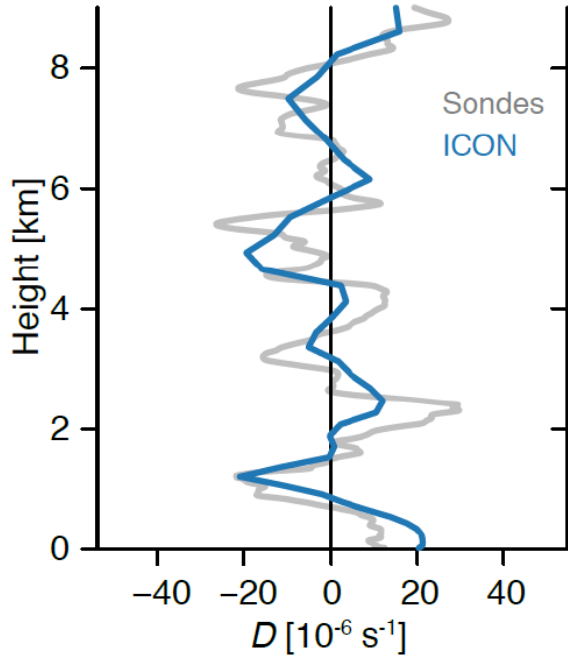
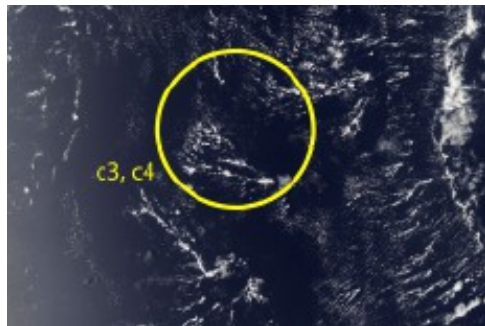Separate heating from other potential sources.
→ Wave statistics
→ Cloud statistics

Model individual clouds of an organized system.
Identify and trace the waves.
→ Separate cause and effect
→ Convective organization

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Required data and modeling capabilities

Divergence profiles & information on the life cycle of surrounding clouds.

ICON in its regular & dry configuration to produce a virtual reality.

3D data (dense is better) of wind, temperature, humidity, precipitation, clouds, estimates of latent heating, radiation.

Mapes, 2017

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