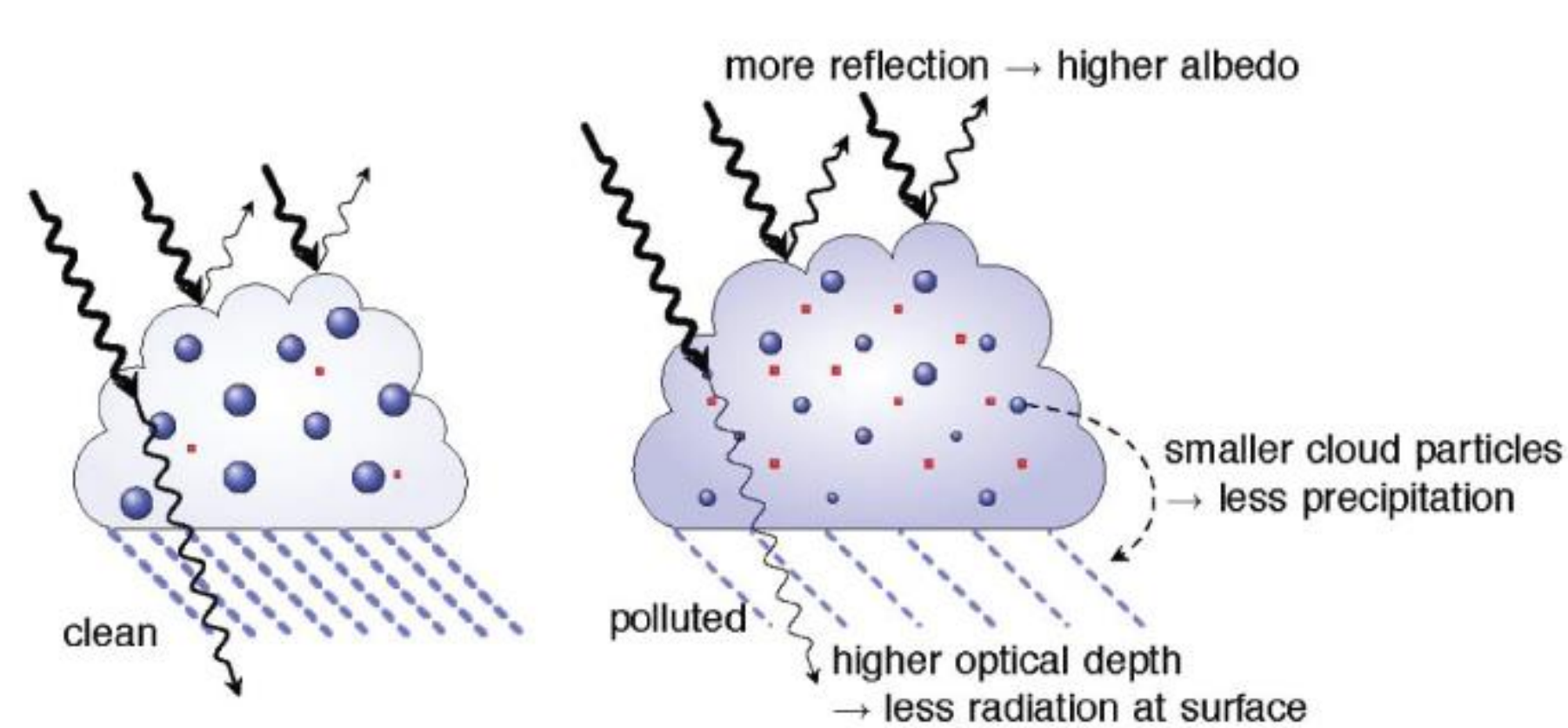


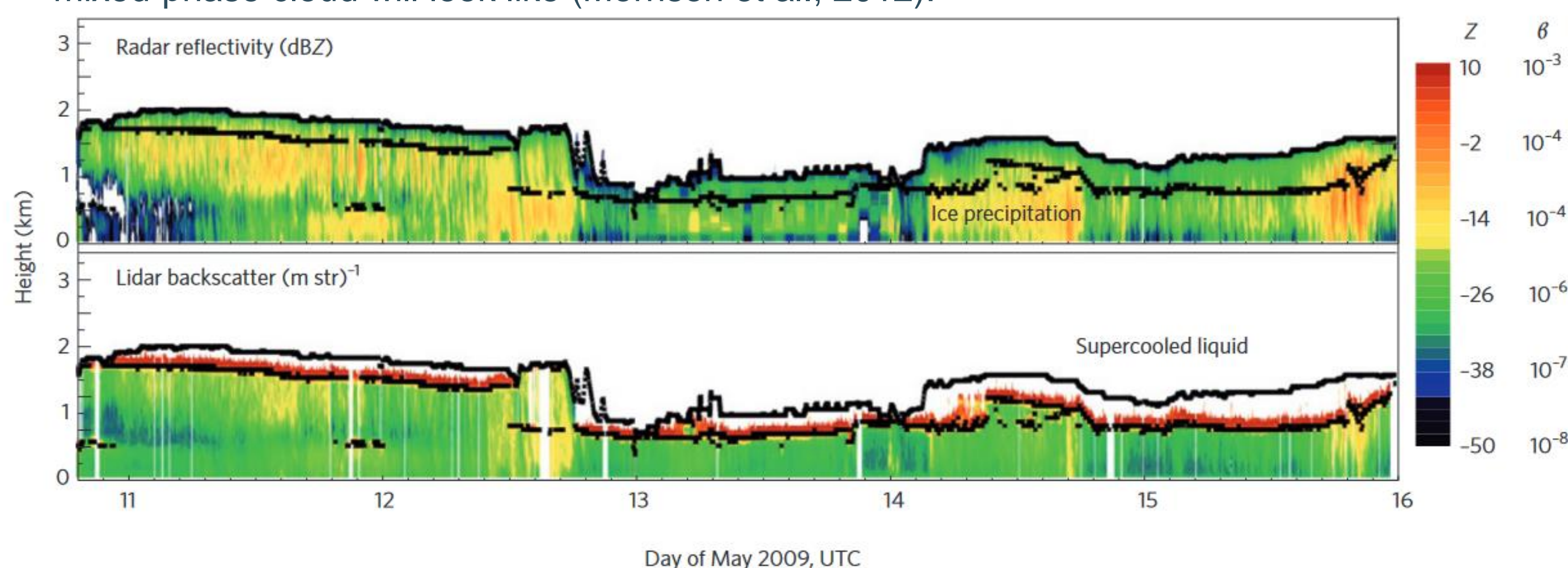
Cloud-Aerosol Interactions in COSMO-CLM²

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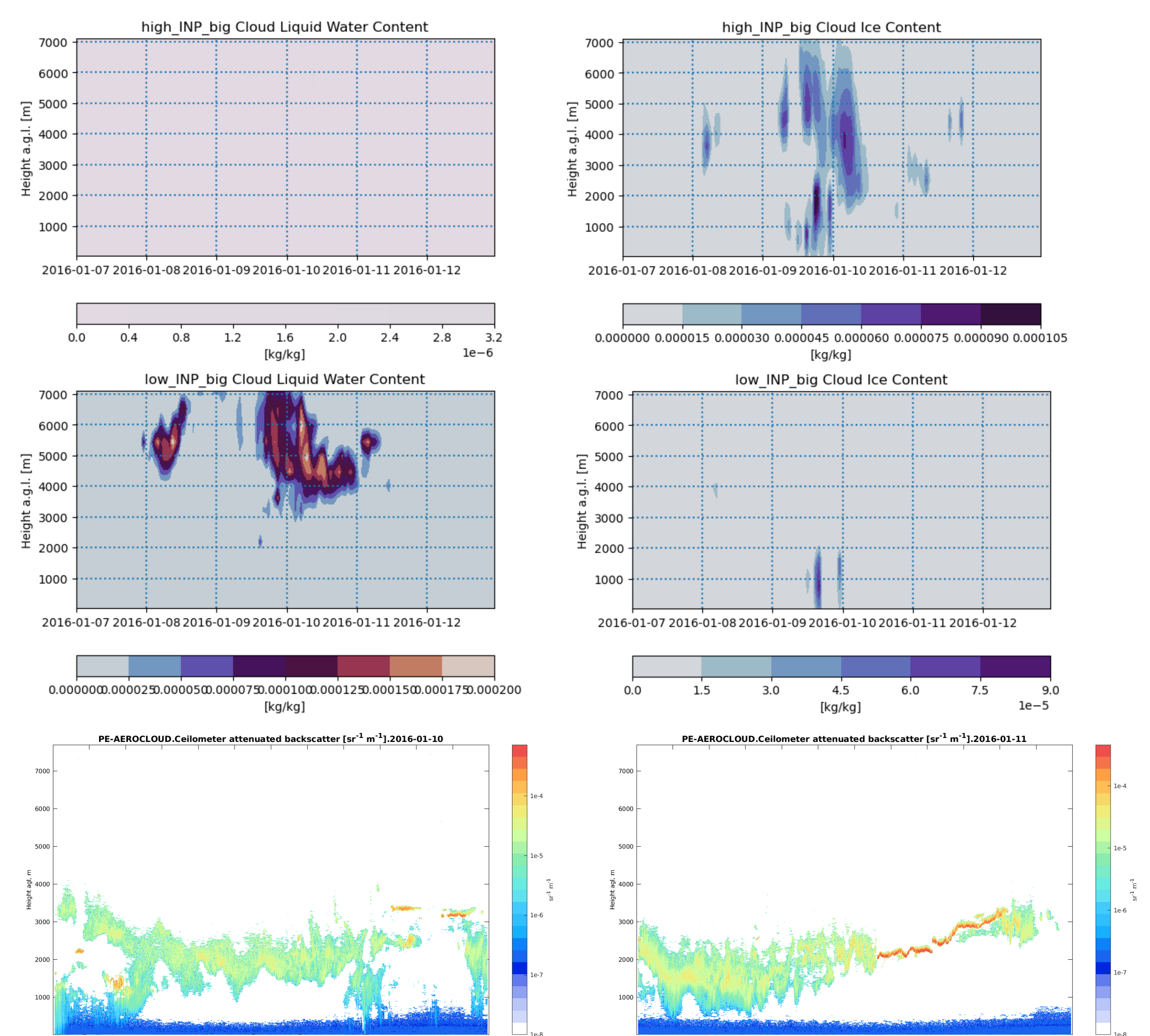
Cloud-Aerosol Interactions



In (ant-)arctic clouds with limited Ice Nucleating Particles, this is how a typical mixed-phase cloud will look like (Morrison et al., 2012):



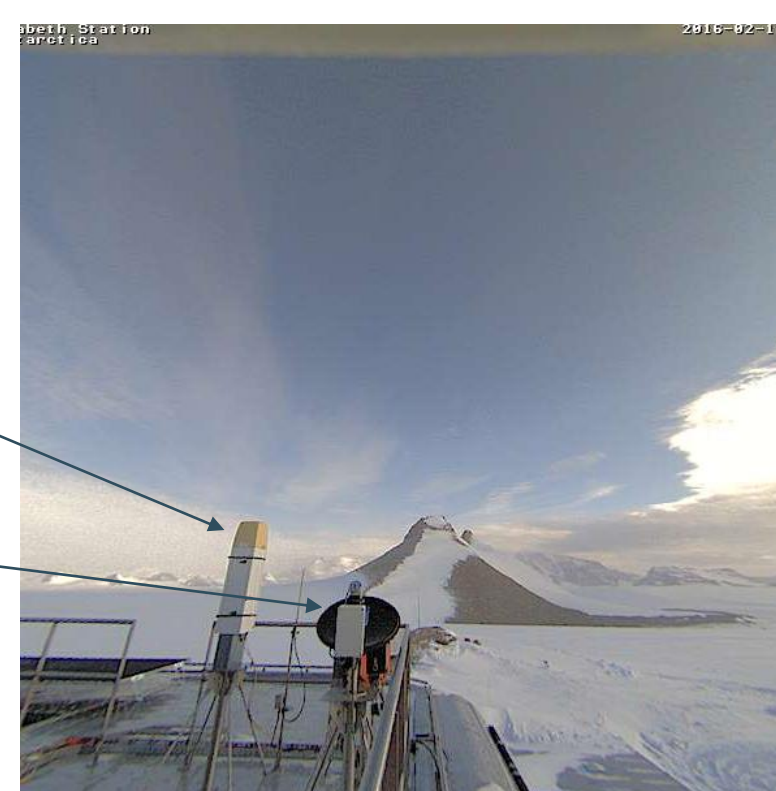
Results



Observations

Instruments at Princess Elisabeth Station:

- Ceilometer
- MRR
- Aerosol Counters



Model

COSMO-CLM² forced with ERA-5

392 x 392 x 40 grid (0.025° resolution)



Conclusions

Simulated Weather is reasonable, especially for low INP numbers

Aerosol effect captured in the model

Overall cloud representation still not ideal

References

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Morrison, H., de Boer, G., Feingold, G. et al. Resilience of persistent Arctic mixed-phase clouds. *Nature Geosci* 5, 11-17 (2012).