

Announcement of a topic for:

Seminar Research **X**
Seminar Methods **X**
Master Theses **X** (please mark one or more)

Topic	Investigation of the connection between tropospheric and stratospheric clouds.
Release Date	15. July 2024
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Description:	The occurrence of different types of Polar Stratospheric Clouds (Tritscher et al., 2021) is likely connected to underlying tropospheric clouds. For instance, ice PSCs are more likely to occur when deep-convective clouds are present in the troposphere (Aichtert et al., 2012). However, there has been no systematic investigation of combined spaceborne lidar observations of tropospheric clouds and PSC so far. The aim of this work is to assess and quantify potential relationships between different forms of tropospheric cloudiness and the occurrence of different PSC types following the approach in Tesche et al. (2021).
Literature:	Aichtert, P., Karlsson Andersson, M., Khosrawi, F., and Gumbel, J.: On the linkage between tropospheric and Polar Stratospheric clouds in the Arctic as observed by space-borne lidar, <i>Atmos. Chem. Phys.</i> , 12, https://doi.org/10.5194/acp-12-3791-2012 , 2012. Tesche, M., Aichtert, P., and Pitts, M. C.: On the best locations for ground-based polar stratospheric cloud (PSC) observations, <i>Atmos. Chem. Phys.</i> , 21, https://doi.org/10.5194/acp-21-505-2021 , 2021. Tritscher, I., Pitts, M. C., Poole, L. R., Alexander, S. P., Cairo, F., Chipperfield, M. P., et al.: Polar stratospheric clouds: Satellite observations, processes, and role in ozone depletion, <i>Rev. Geophys.</i> , 59, https://doi.org/10.1029/2020RG000702 , 2021.