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The influence of water vapor anomalies on clouds and their radiative effect at Ny-Ålesund

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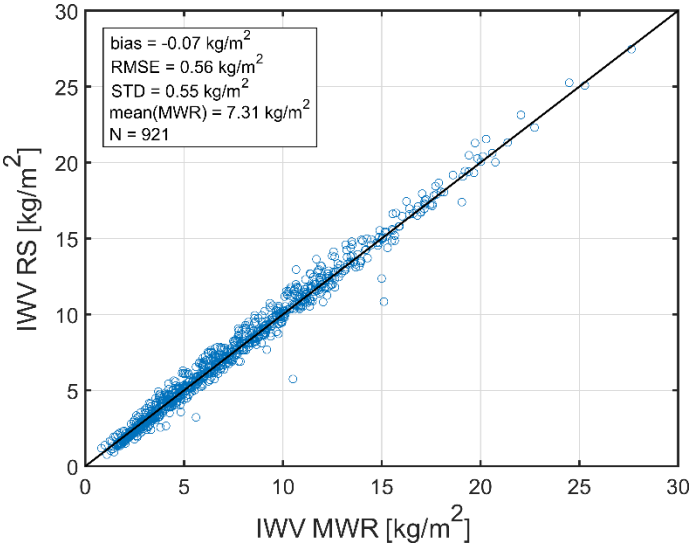

Figure S1. IWV comparison between MWR (mean value within 15 min after a radiosonde launch) and radiosonde (only around 11 UTC radiosondes included) for the period from 2011 to 2017. The data are from the AWIPEV station in Ny-Ålesund.

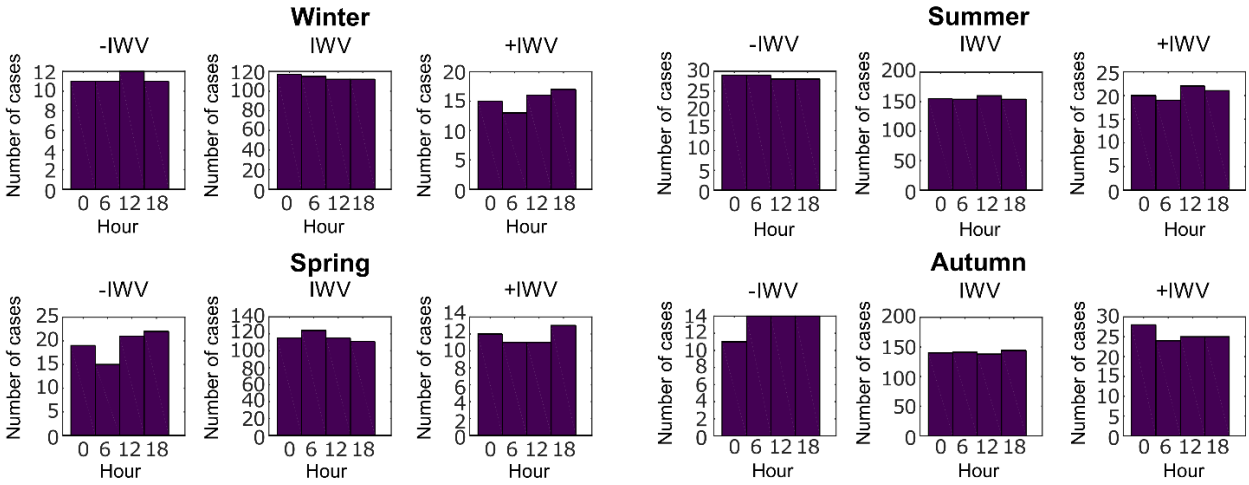

Figure S2. Distributions of anomalous and normal cases over day-time for different seasons.

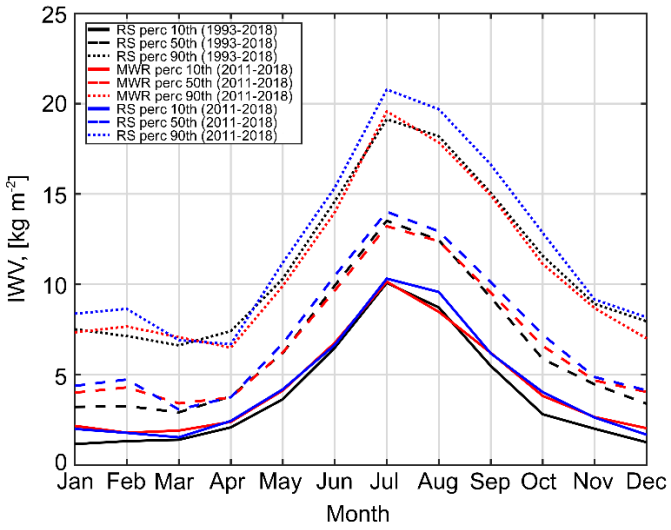

Figure S3. Monthly percentiles of IWV derived from MWR HATPRO and radiosondes at Ny-Ålesund for different periods. Black lines show 10th percentile (solid line), 50th percentile (dashed line), and 90th percentile (dotted line) of IWV calculated from radiosondes for the period from 1993 to 2018. Red lines are related to the correspondent percentiles of IWV retrieved from MWR HATPRO for the period from 2011 to. Blue lines referred to the correspondent percentiles of IWV derived from radiosondes for the period from 2011 to 2018.