Supplements:

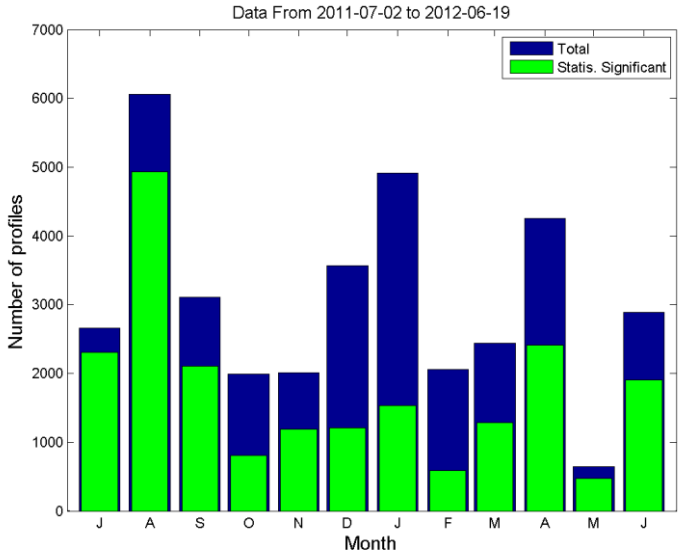

Figure S.1. Number of the lidar profiles of 5 min for each month from July 2011 to June 2012. Total number of lidar profiles of the atmosphere is shown in blue, and those profiles with signal to noise ratio higher than 3 in the altitudes above 7 km, in green.

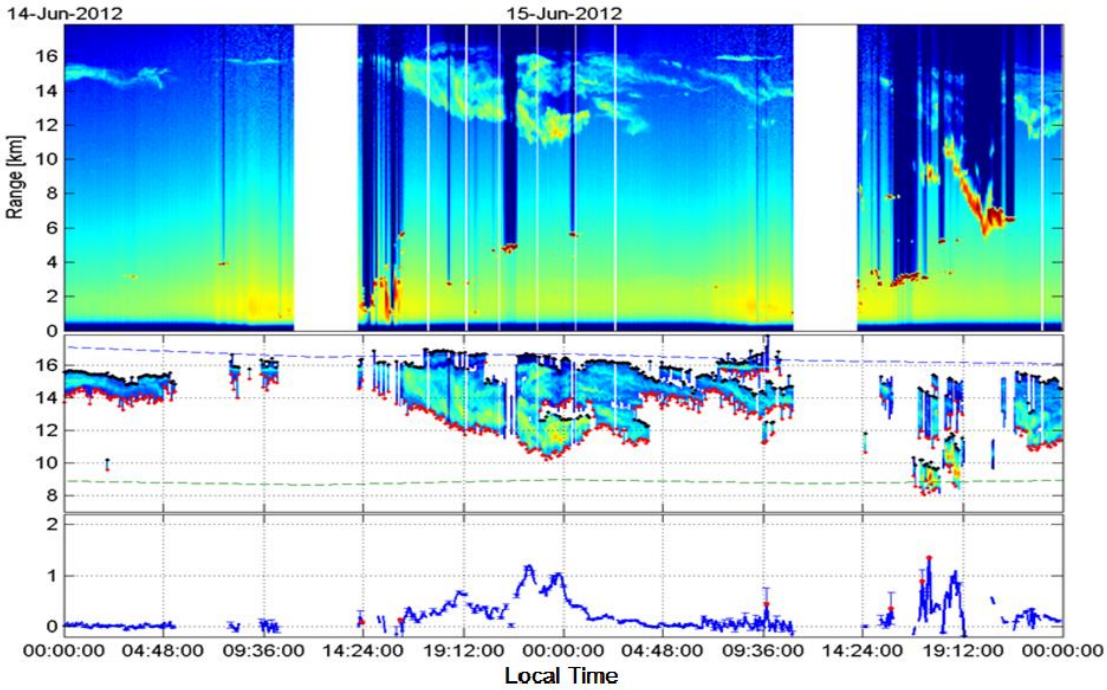

Figure S.2 Example of the application of the automatic algorithm to the lidar dataset. Top panel shows the range and background corrected signal for two days in June 2012. Middle panel shows the cirrus clouds identified with lines indicating the cloud base (red), top (black), tropopause (dashed blue) and -25 °C isotherm (dashed green). Lower panel shows the cloud optical depth.

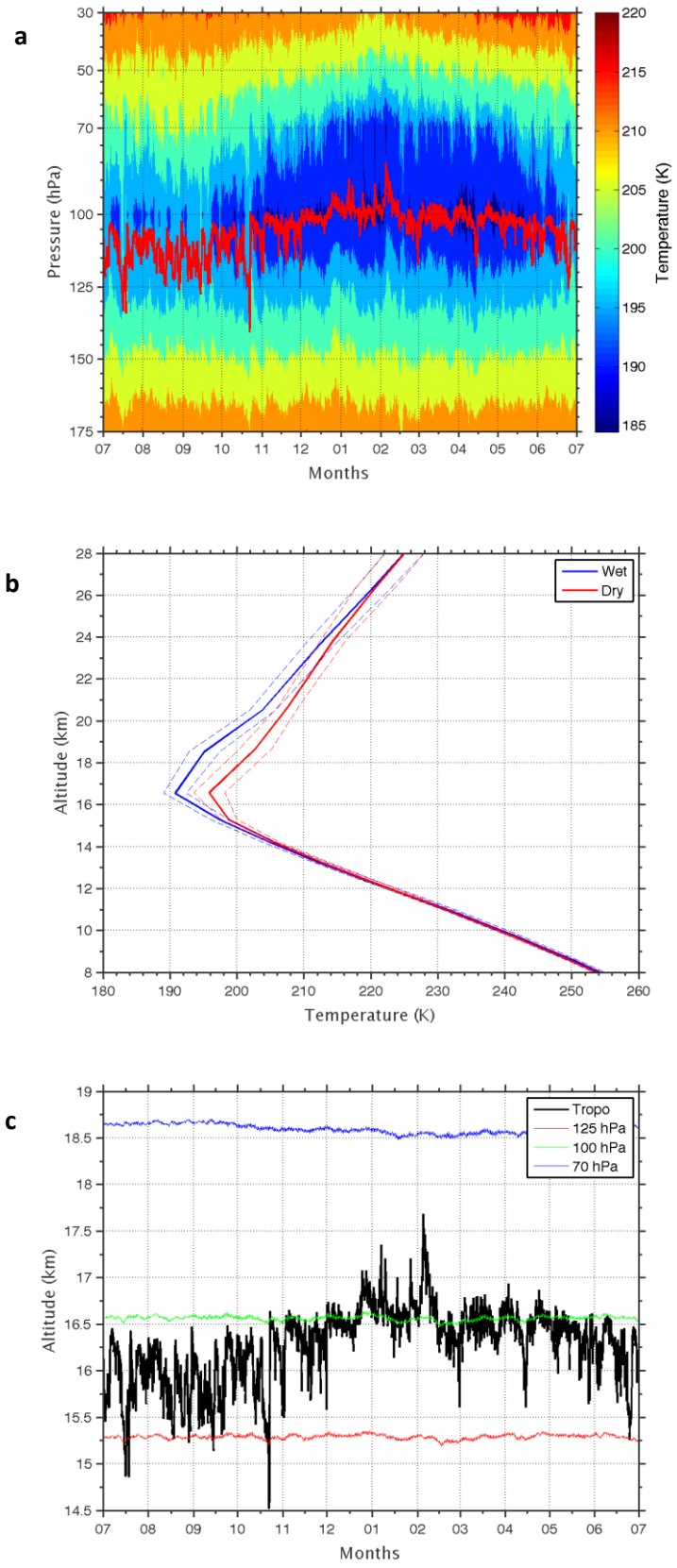

Figure S.3. Altitude of the tropopause derived from ERA Interim reanalysis. (a) Temperature is shown in shaded colors, and the red line gives the pressure at the tropopause. (b) Mean temperature profile and standard deviation for the dry and wet seasons. (c) Tropopause height times series.