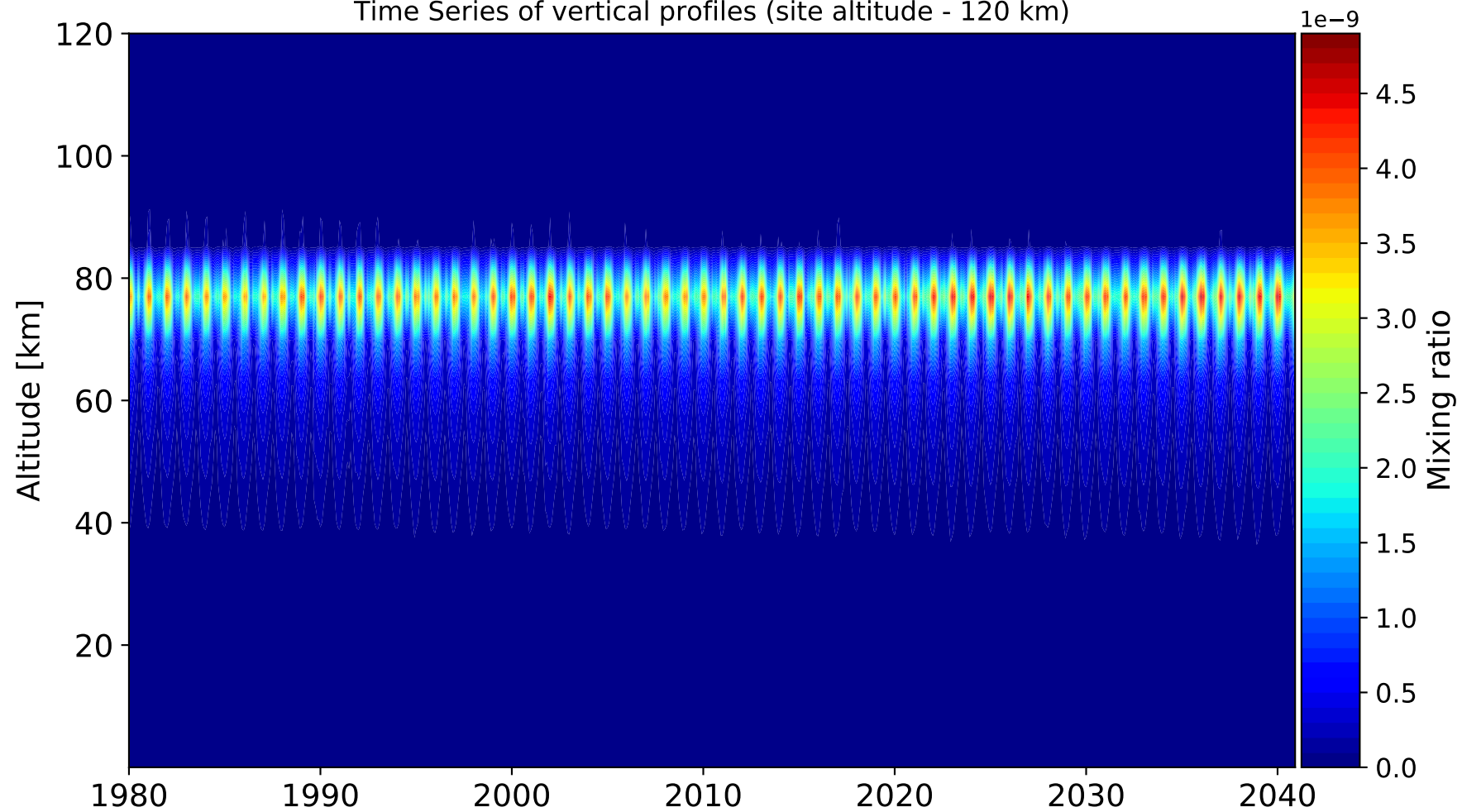
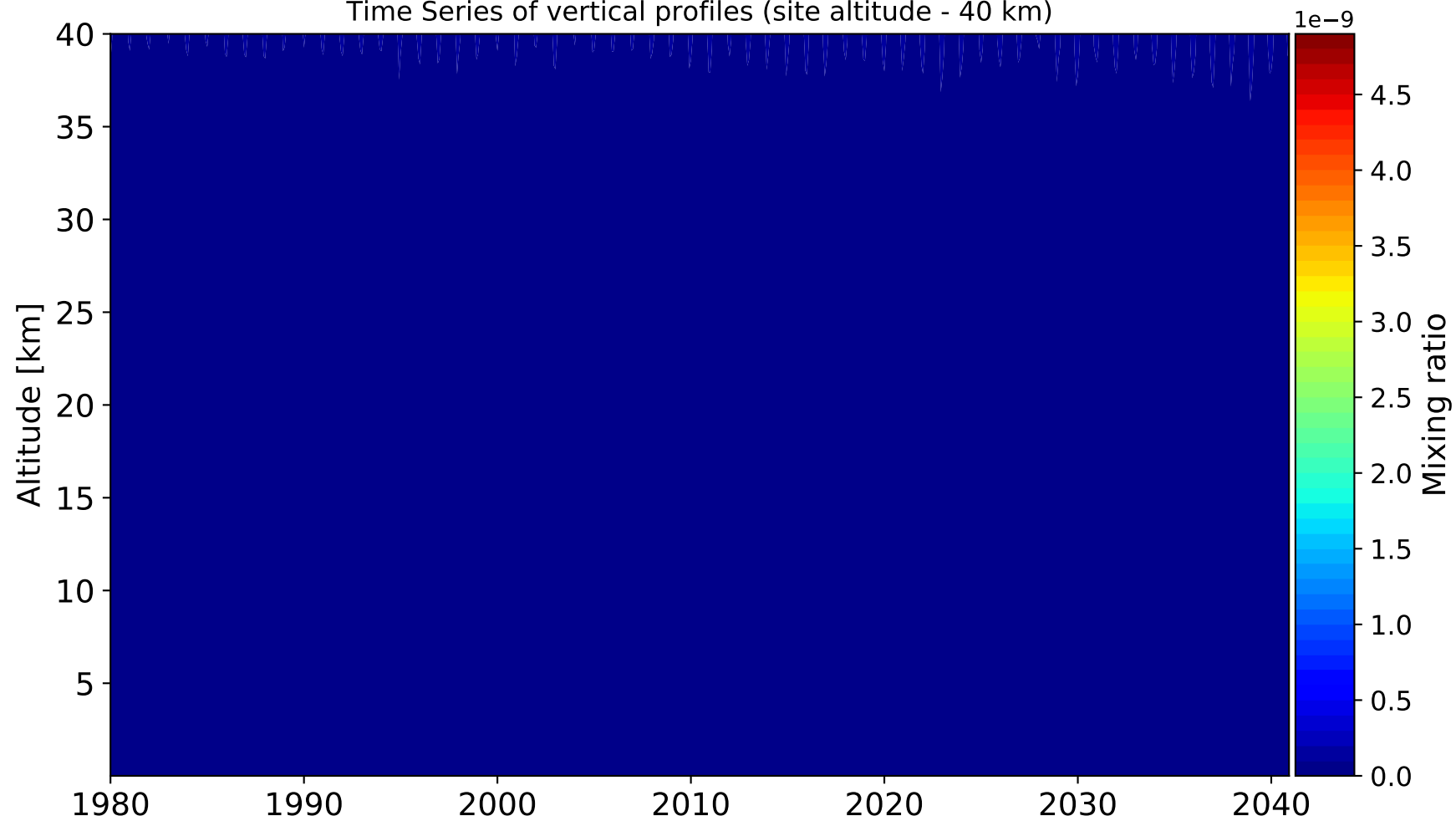


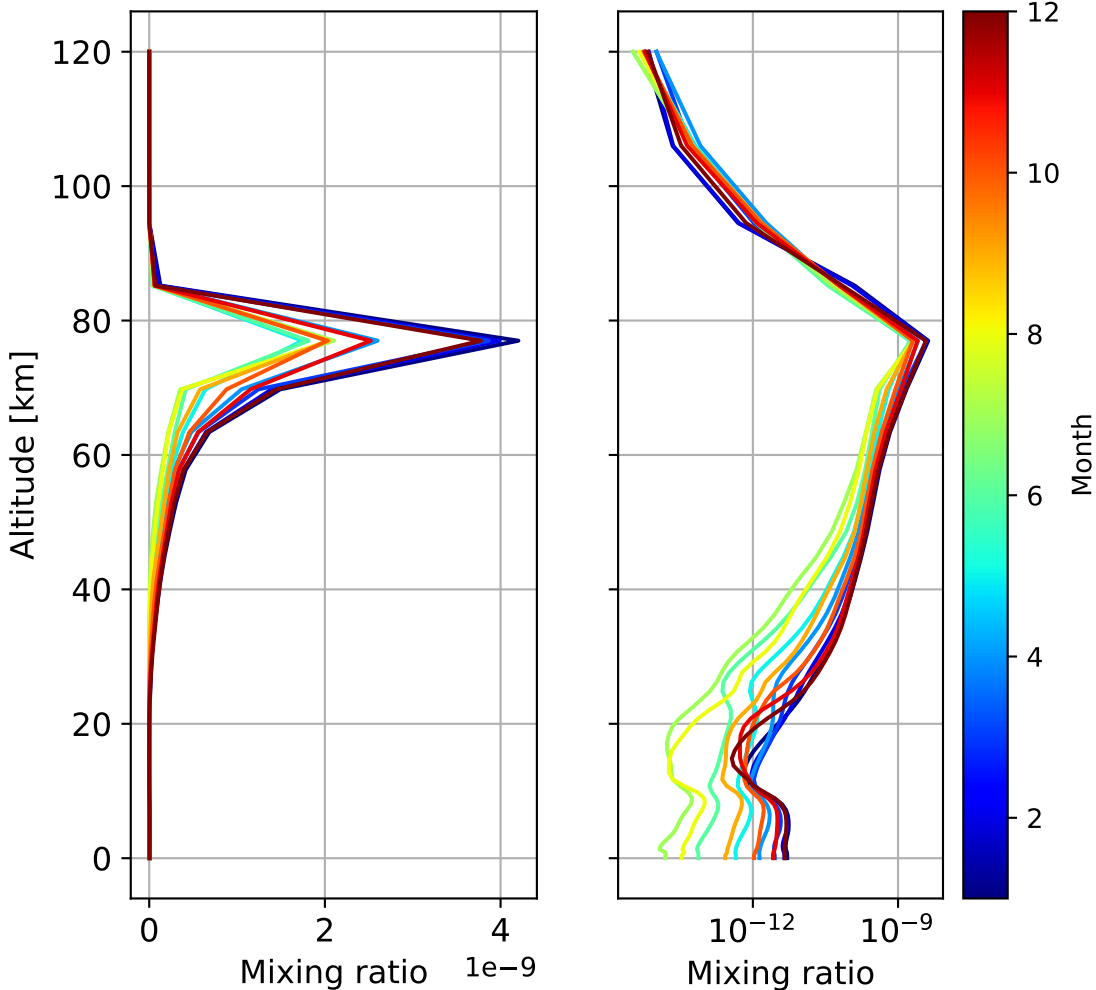
Time Series of vertical profiles (site altitude - 120 km)



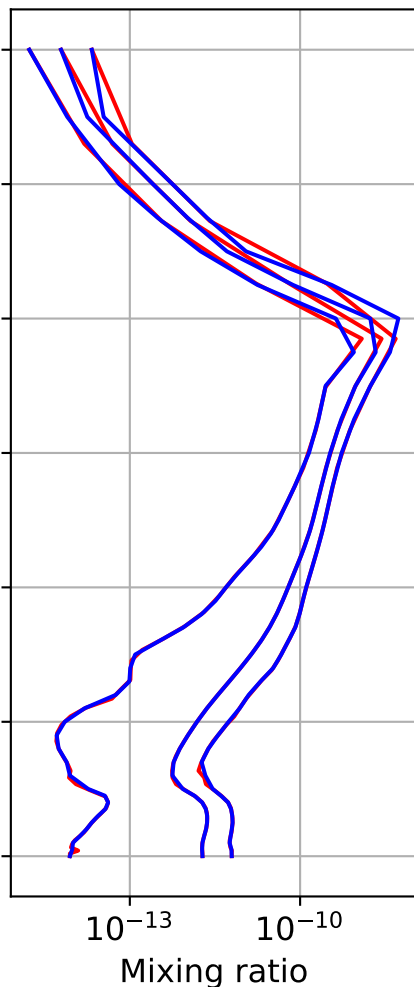
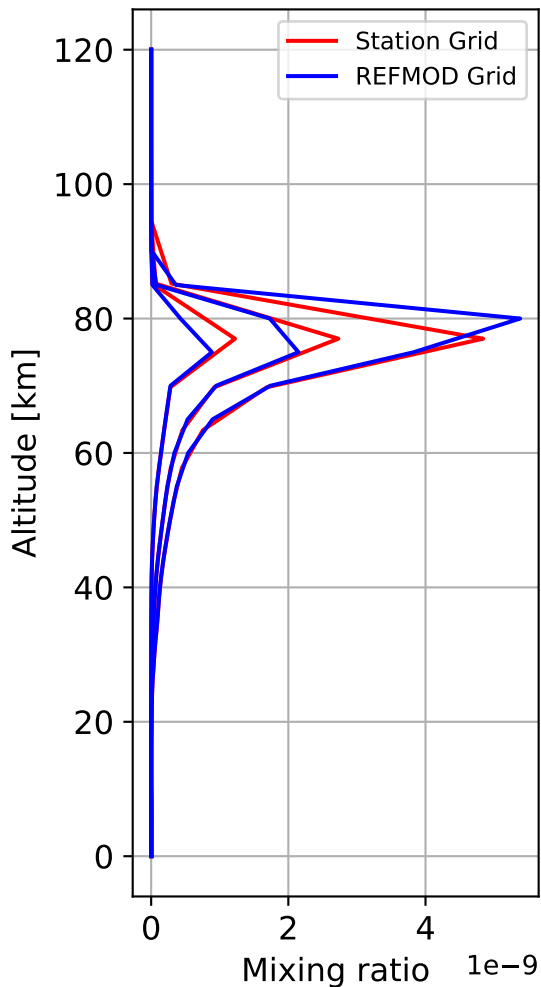
Time Series of vertical profiles (site altitude - 40 km)



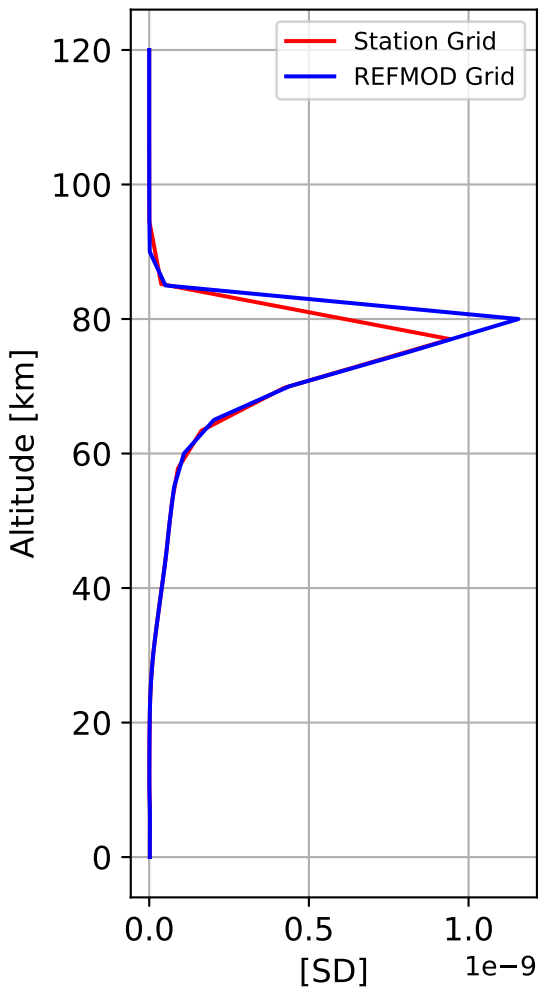
Monthly mean WACCM profile (interpolated to station grid)  
Syowa\_Station, -69.0N, 39.59E, 0.01kmasl



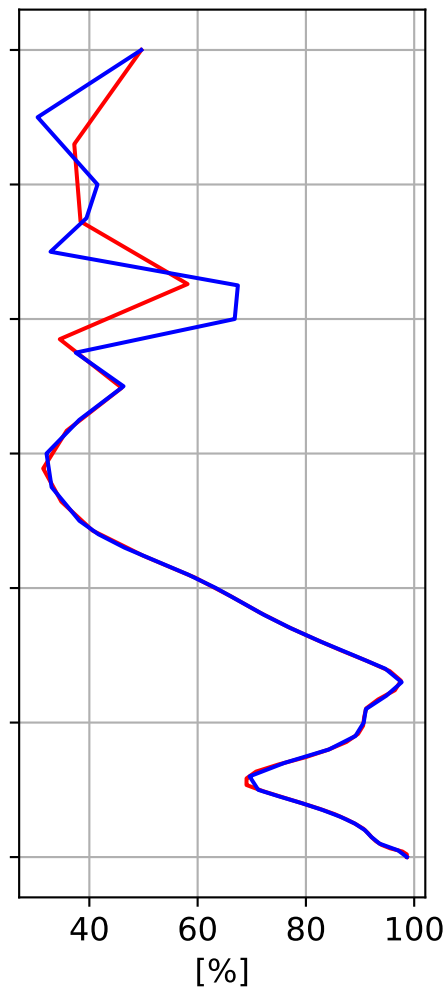
Min, Max, Mean of 732 profiles  
Syowa\_Station, -69.0N, 39.59E, 0.01kmasl



Std. Deviation



Percent Deviation

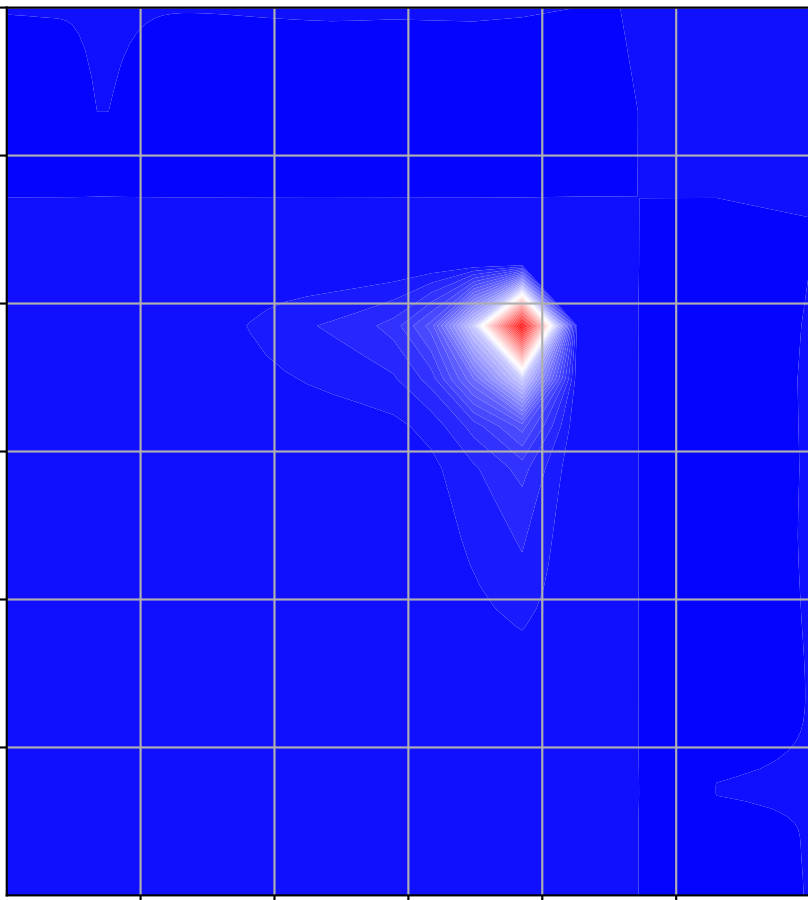


# Level covariance matrix

1e-19

Altitude [km]

120  
100  
80  
60  
40  
20



Mixing ratio[ $\sim 2$ ]

9  
8  
7  
6  
5  
4  
3  
2  
1  
0