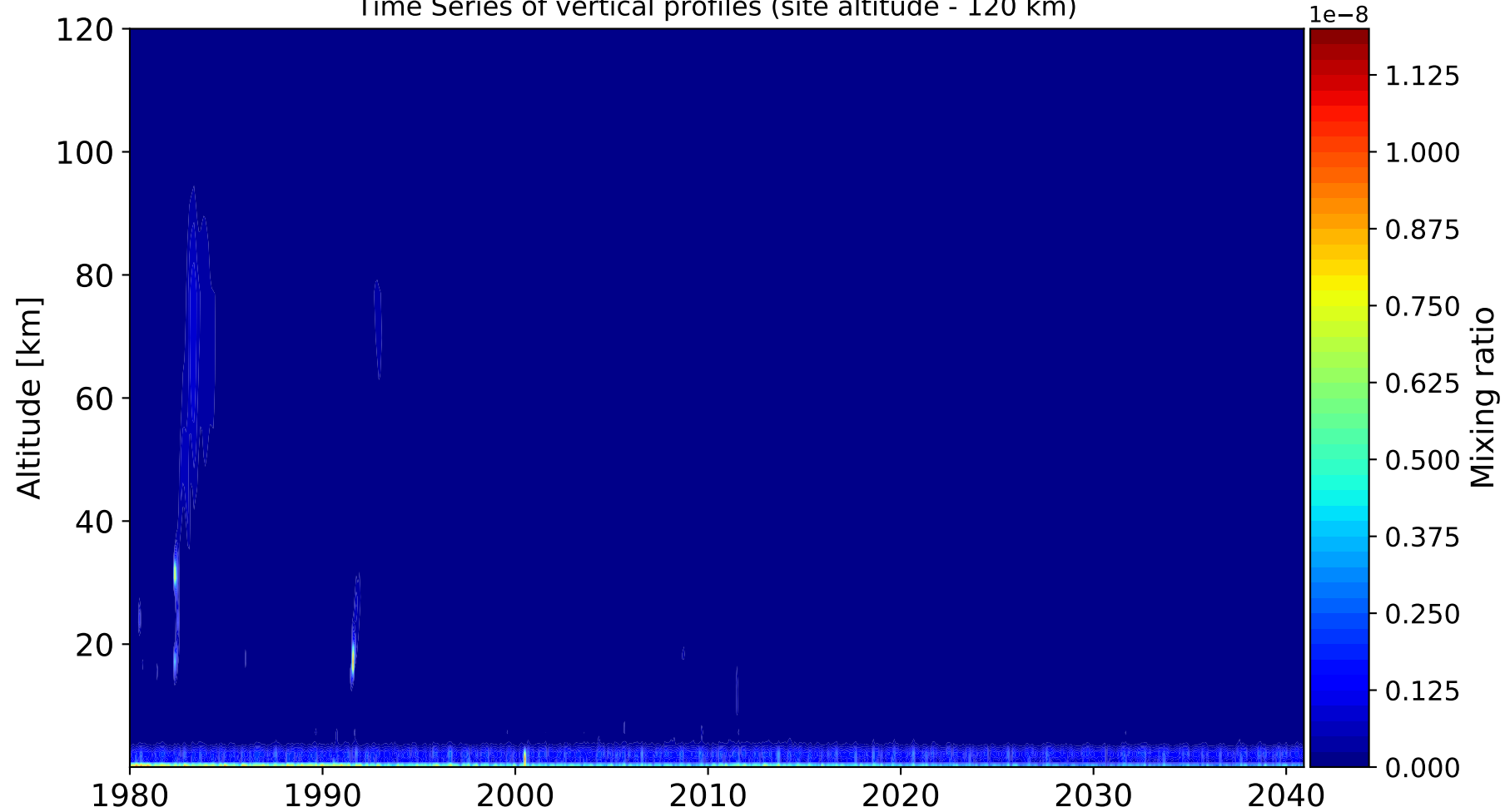
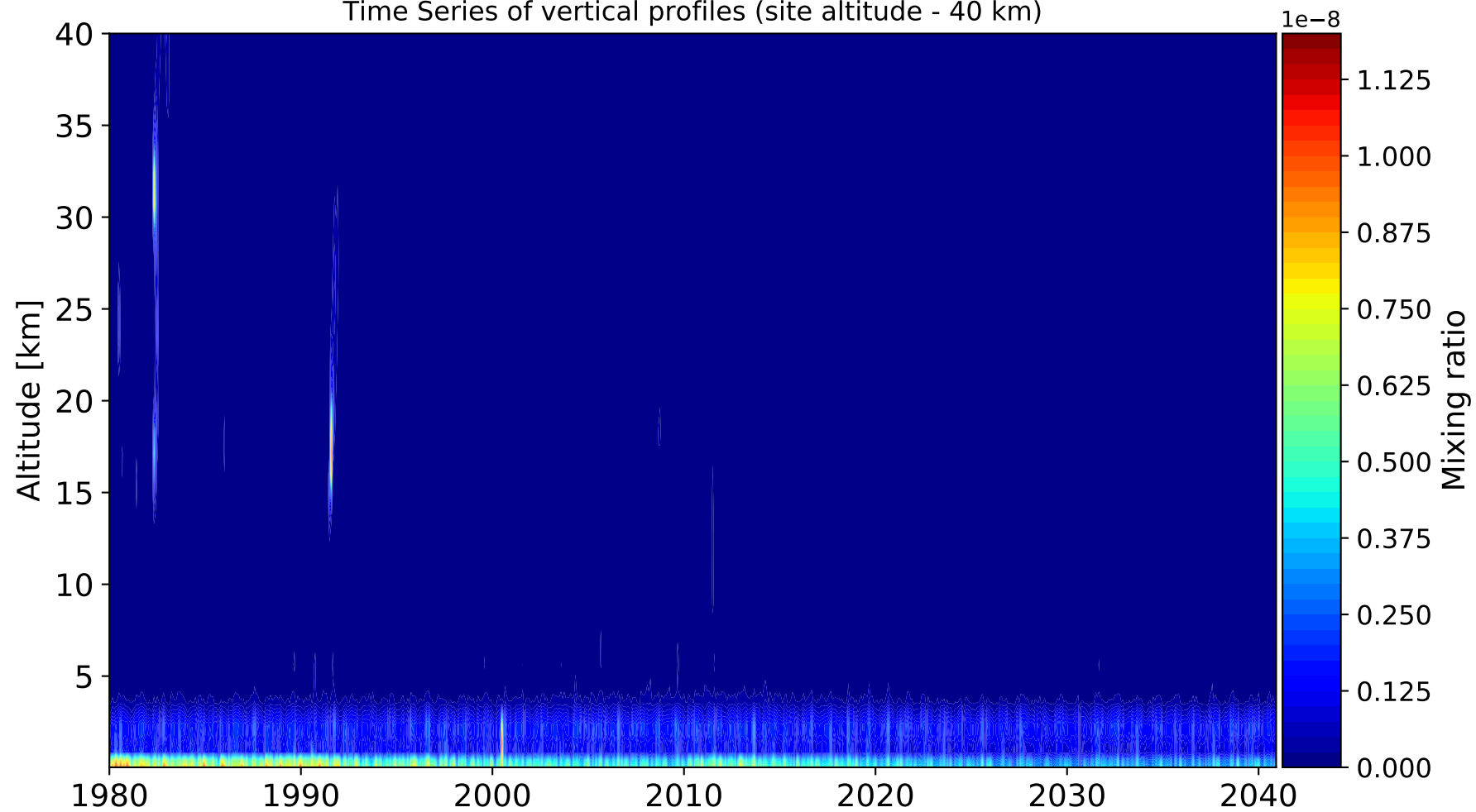


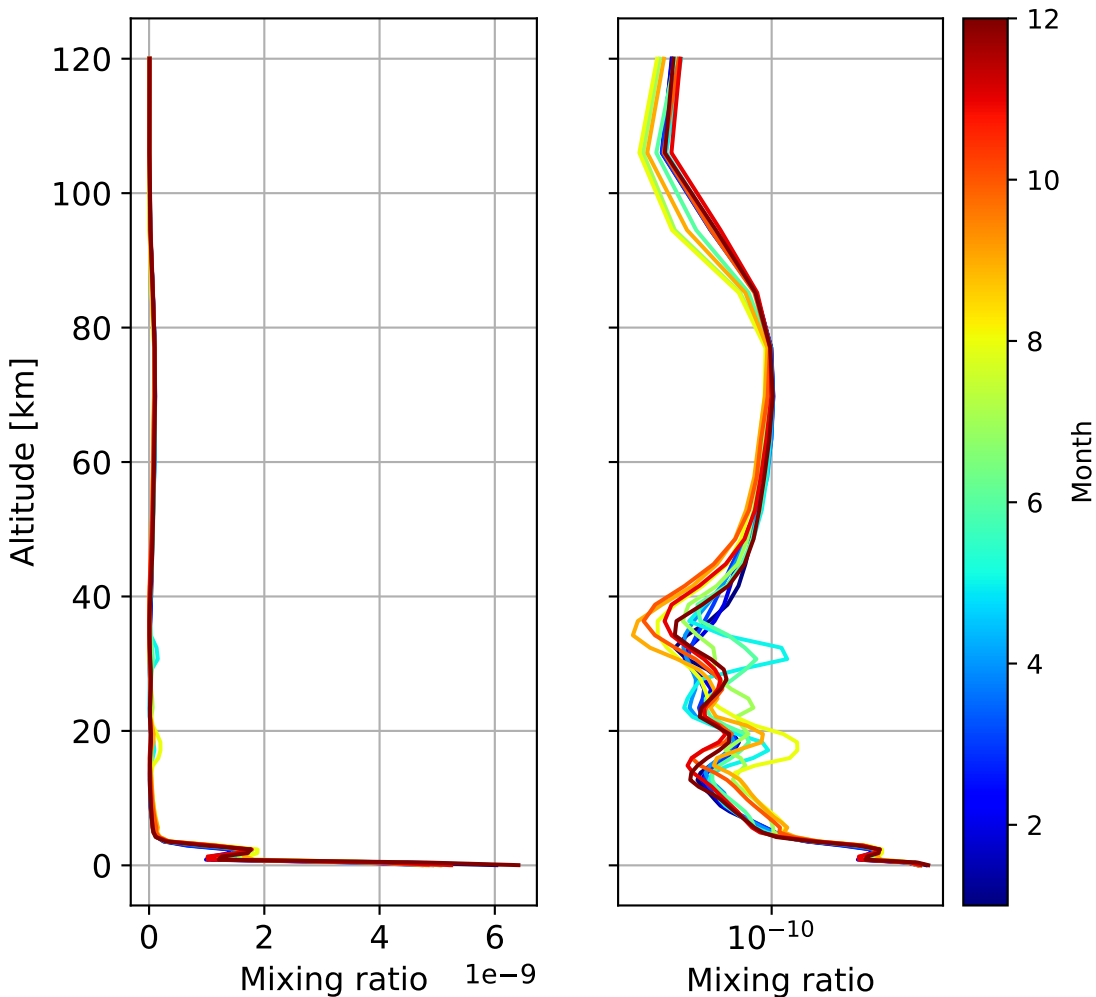
Time Series of vertical profiles (site altitude - 120 km)



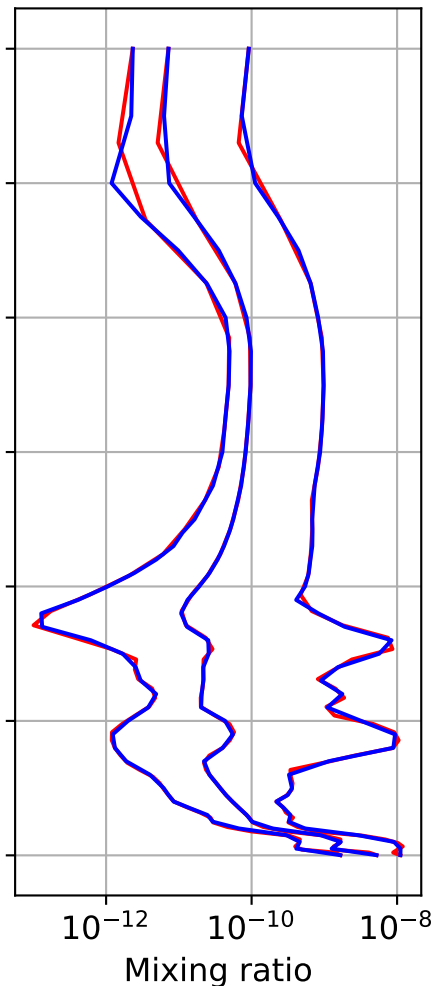
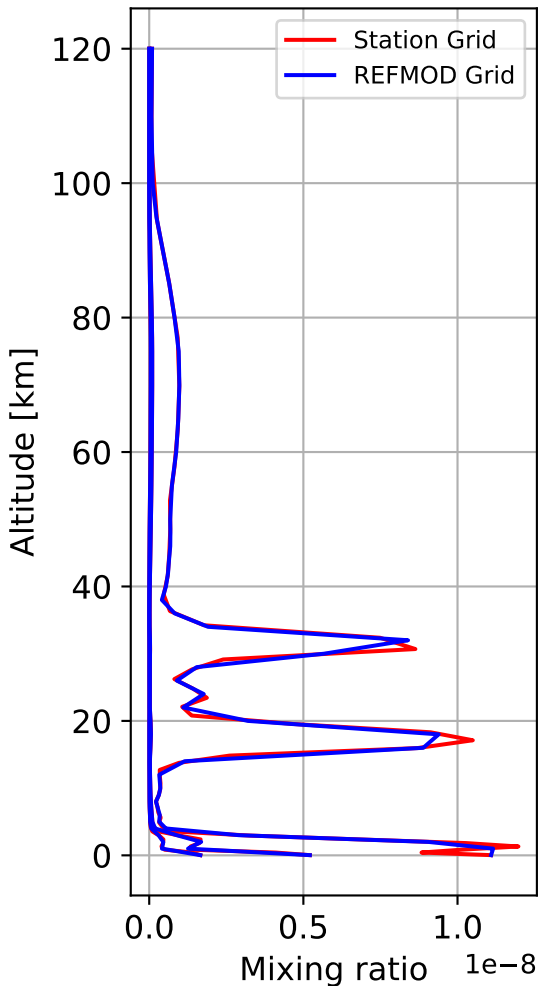
Time Series of vertical profiles (site altitude - 40 km)



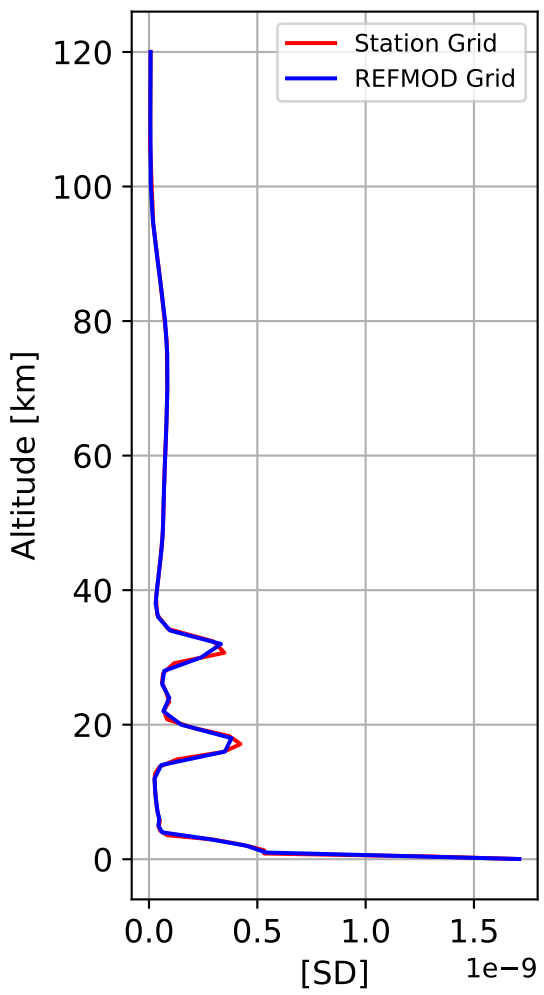
Monthly mean WACCM profile (interpolated to station grid)  
Tsukuba, 36.05N, 140.12E, 0.031km/sl



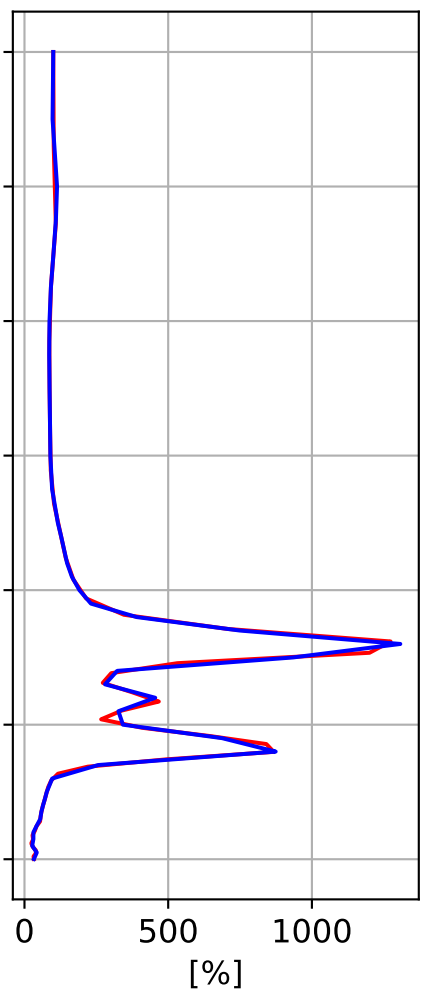
Min, Max, Mean of 732 profiles  
Tsukuba, 36.05N, 140.12E, 0.031km/sl



### Std. Deviation



### Percent Deviation



# Level covariance matrix

1e-18

Altitude [km]

120  
100  
80  
60  
40  
20

Altitude [km]

20 40 60 80 100 120

2.88  
2.52  
2.16  
1.80  
1.44  
1.08  
0.72  
0.36  
0.00

Mixing ratio[ $\sim 2$ ]

