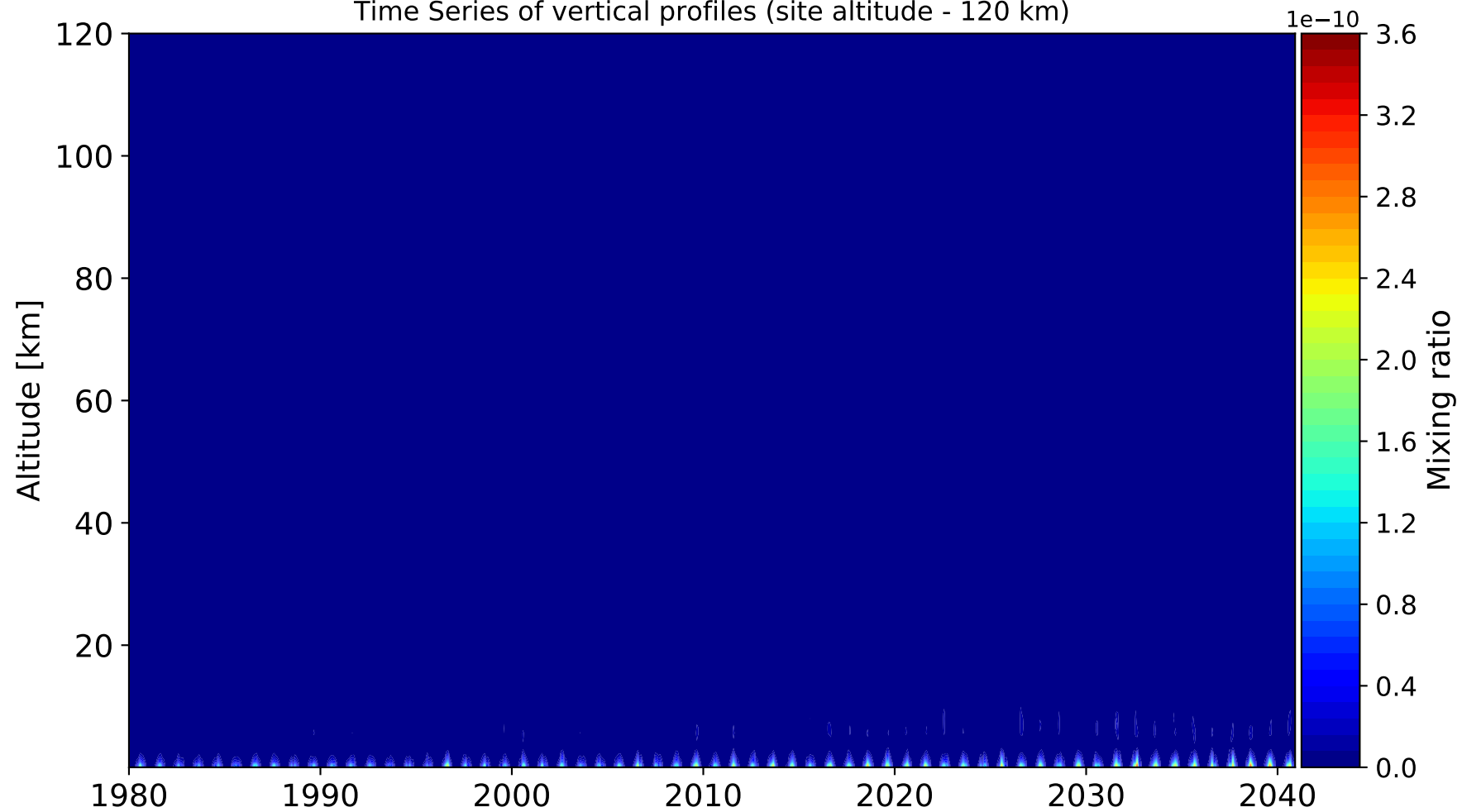
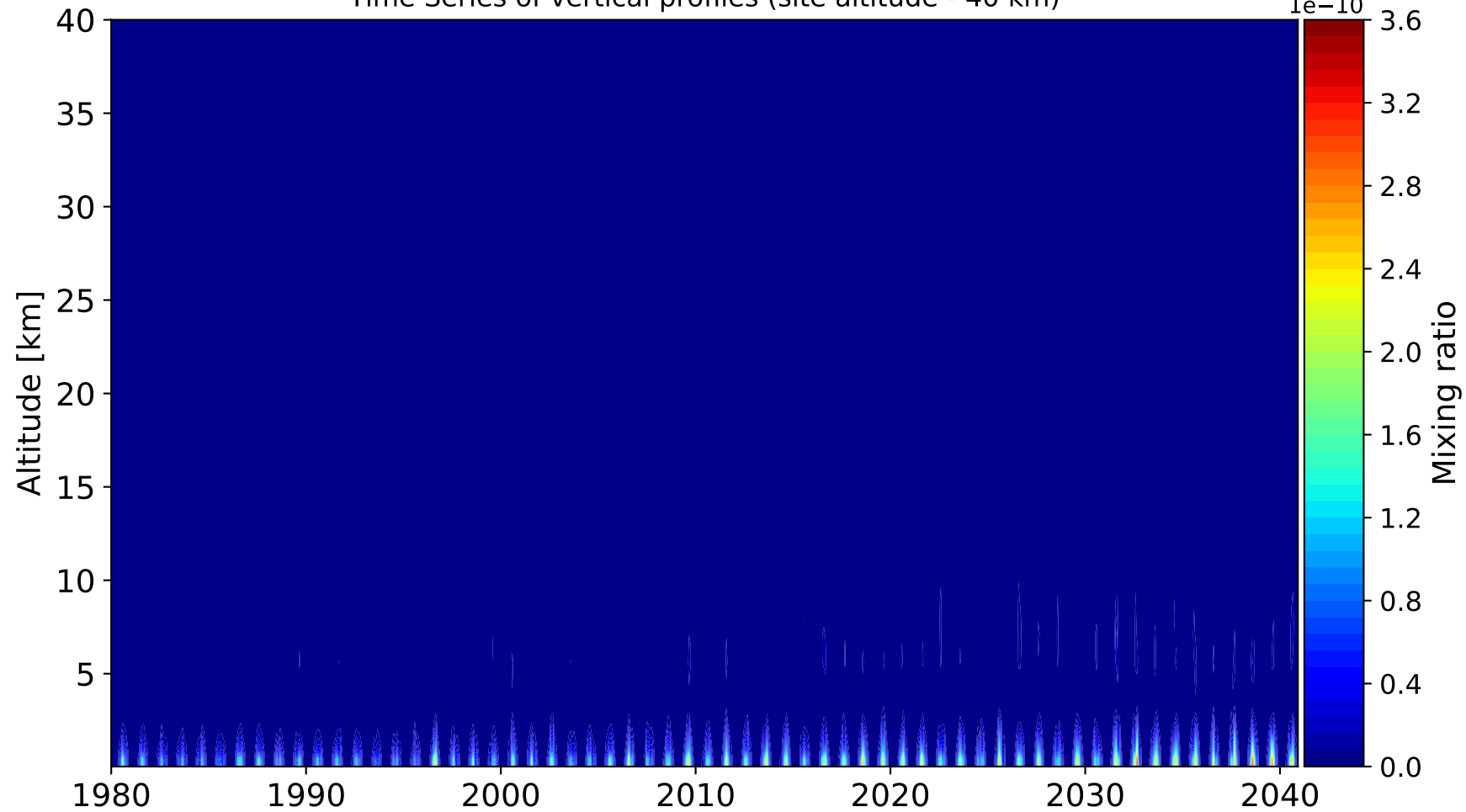


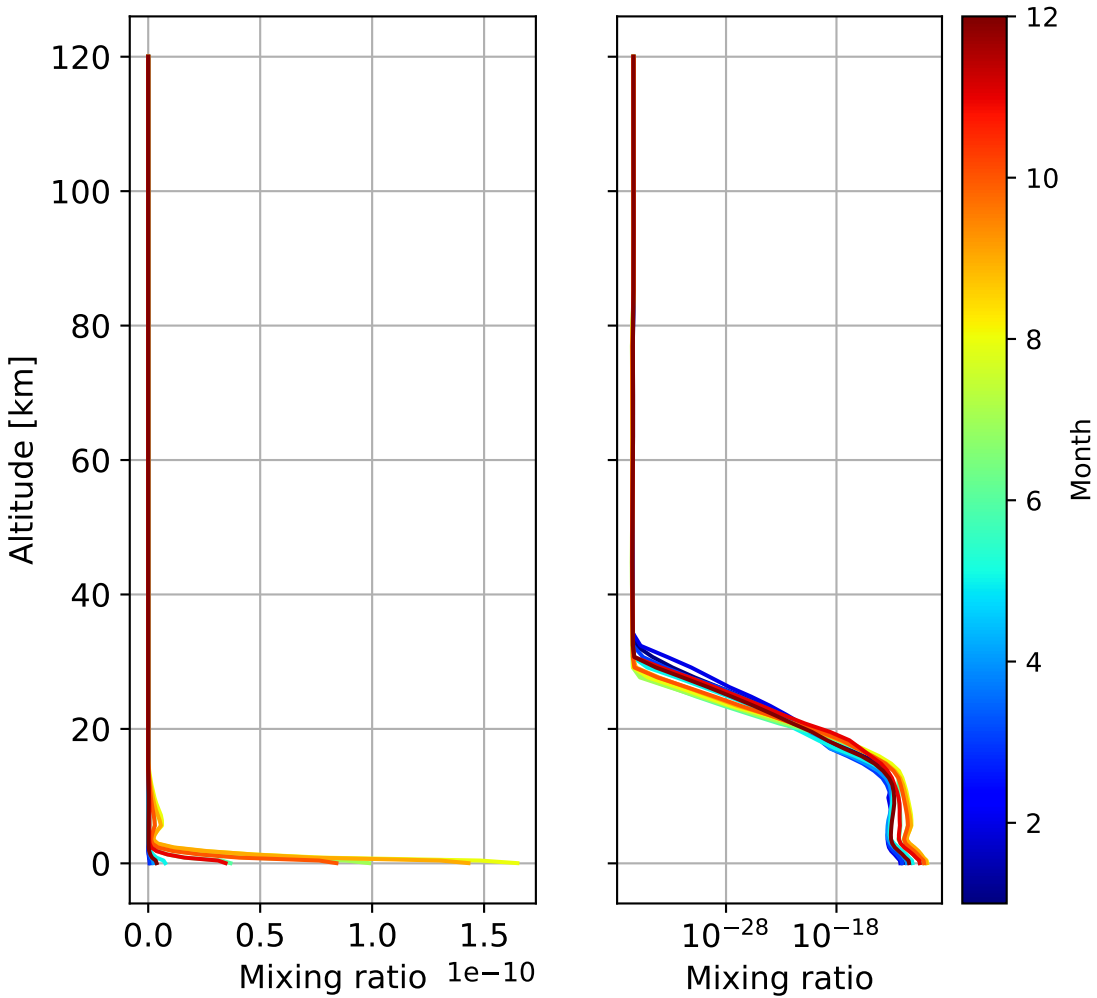
Time Series of vertical profiles (site altitude - 120 km)



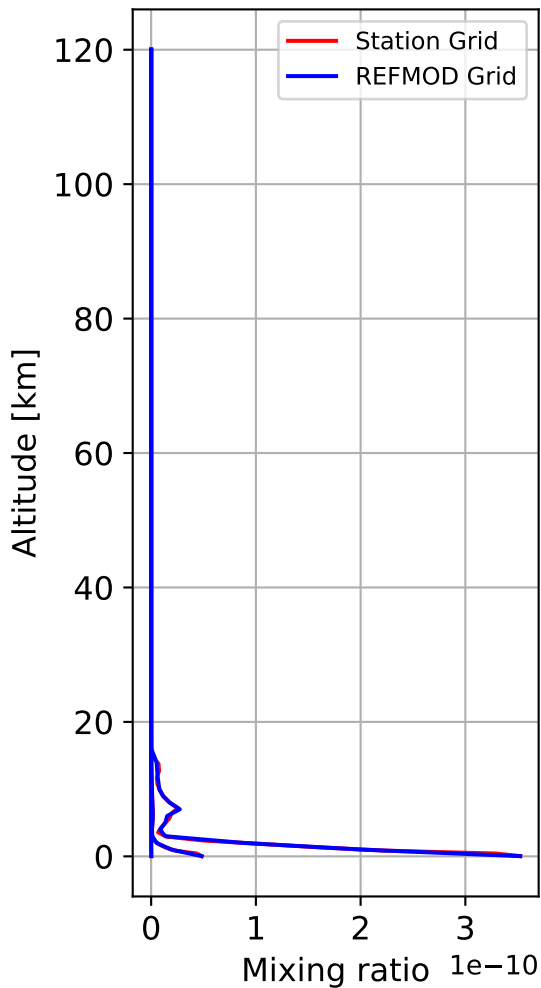
Time Series of vertical profiles (site altitude - 40 km)



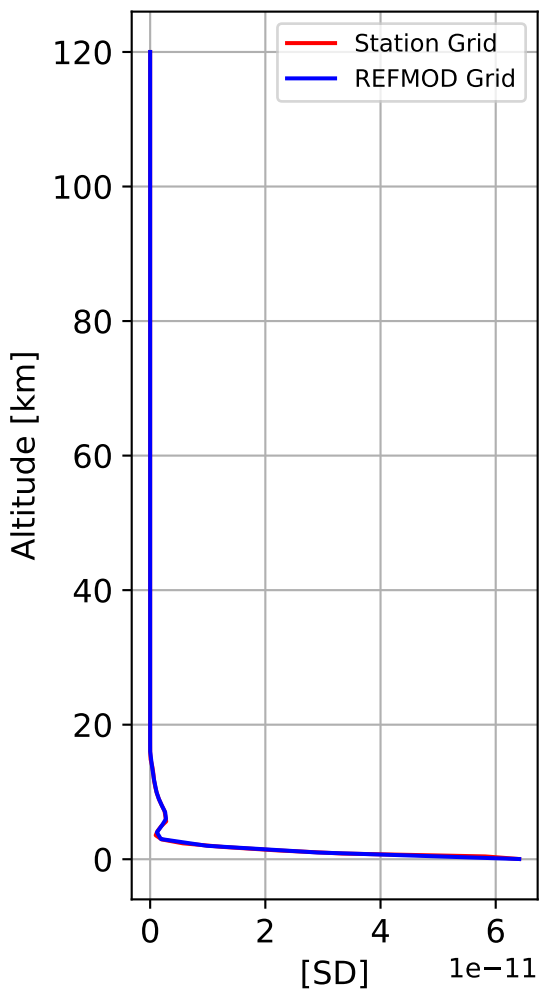
# Monthly mean WACCM profile (interpolated to station grid) Tsukuba, 36.05N, 140.12E, 0.031kmasl



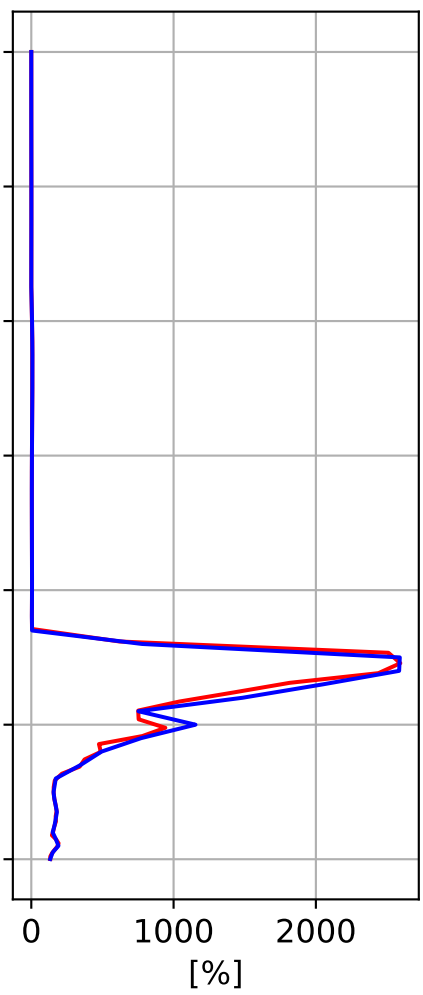
Min, Max, Mean of 732 profiles  
Tsukuba, 36.05N, 140.12E, 0.031kmasl



### Std. Deviation



### Percent Deviation



# Level covariance matrix

$1e-21$

Altitude [km]

120  
100  
80  
60  
40  
20

Altitude [km]

Mixing ratio<sup>2</sup>

4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0  
0.5  
0.0

