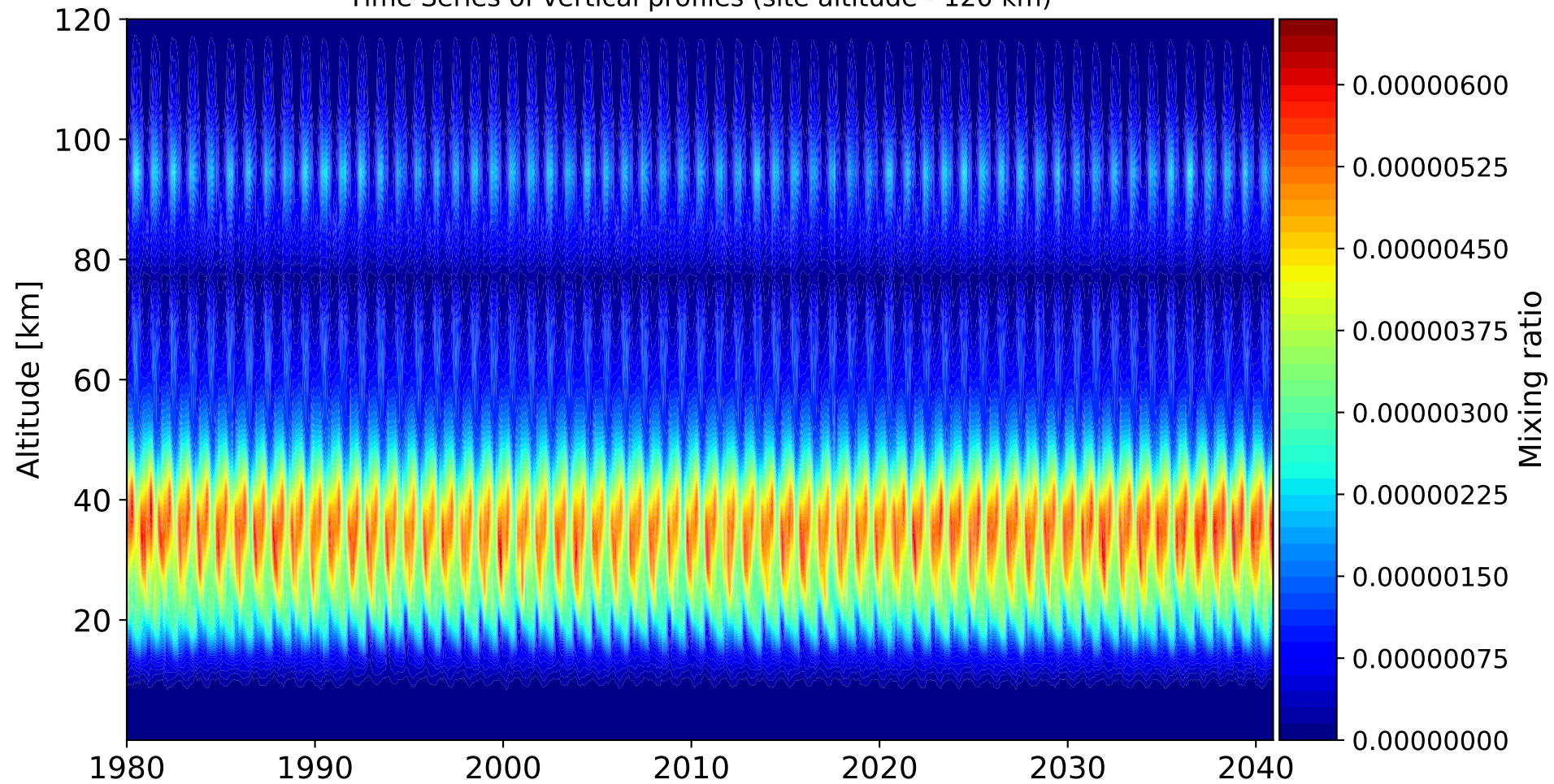
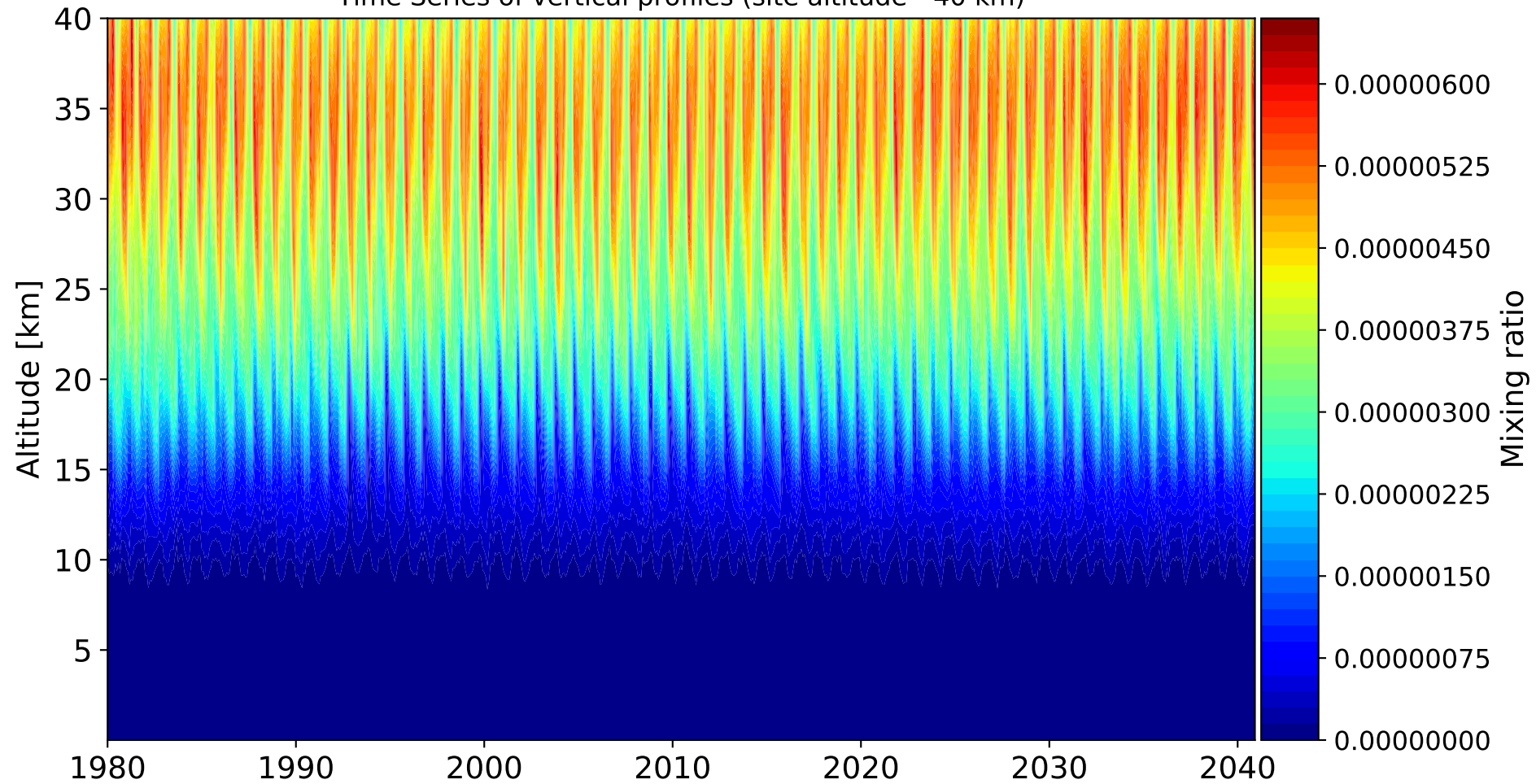


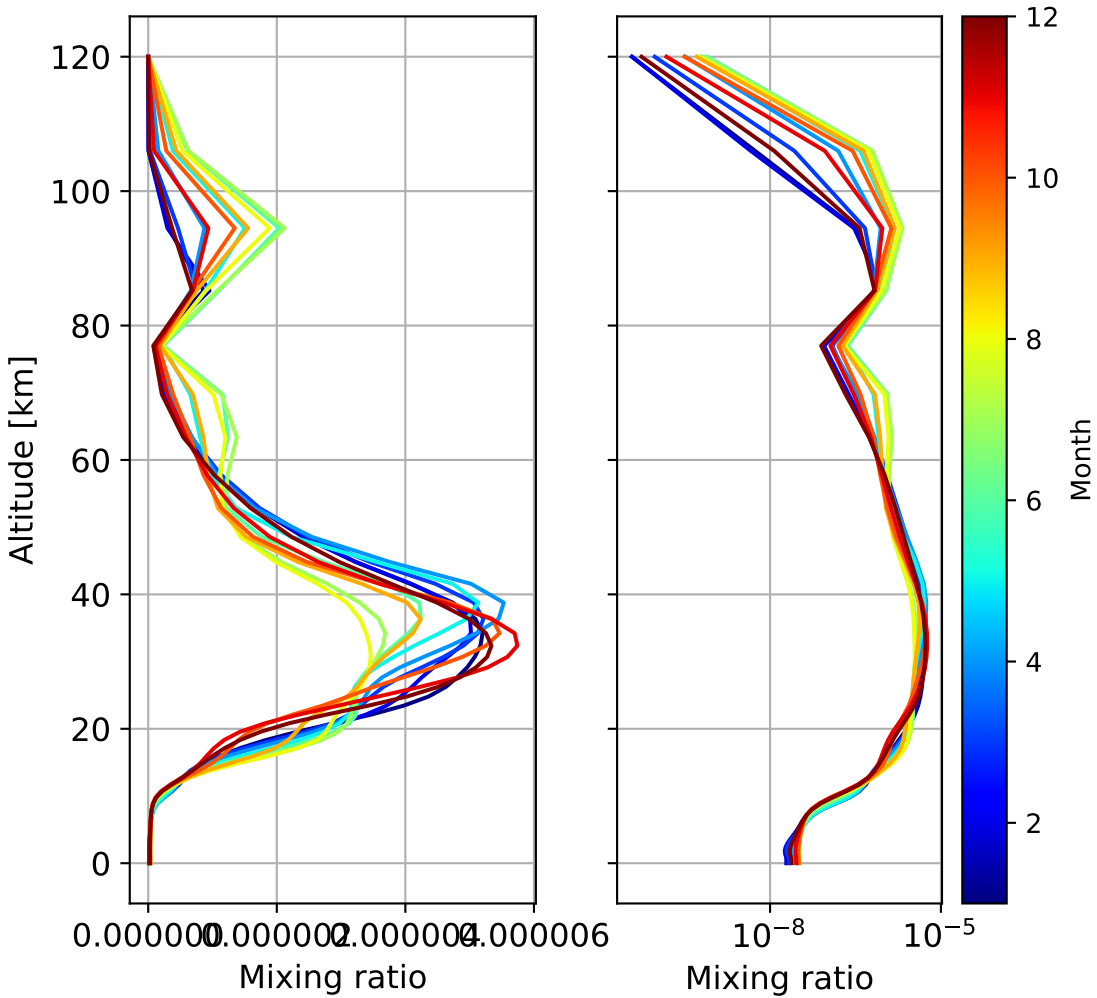
Time Series of vertical profiles (site altitude - 120 km)



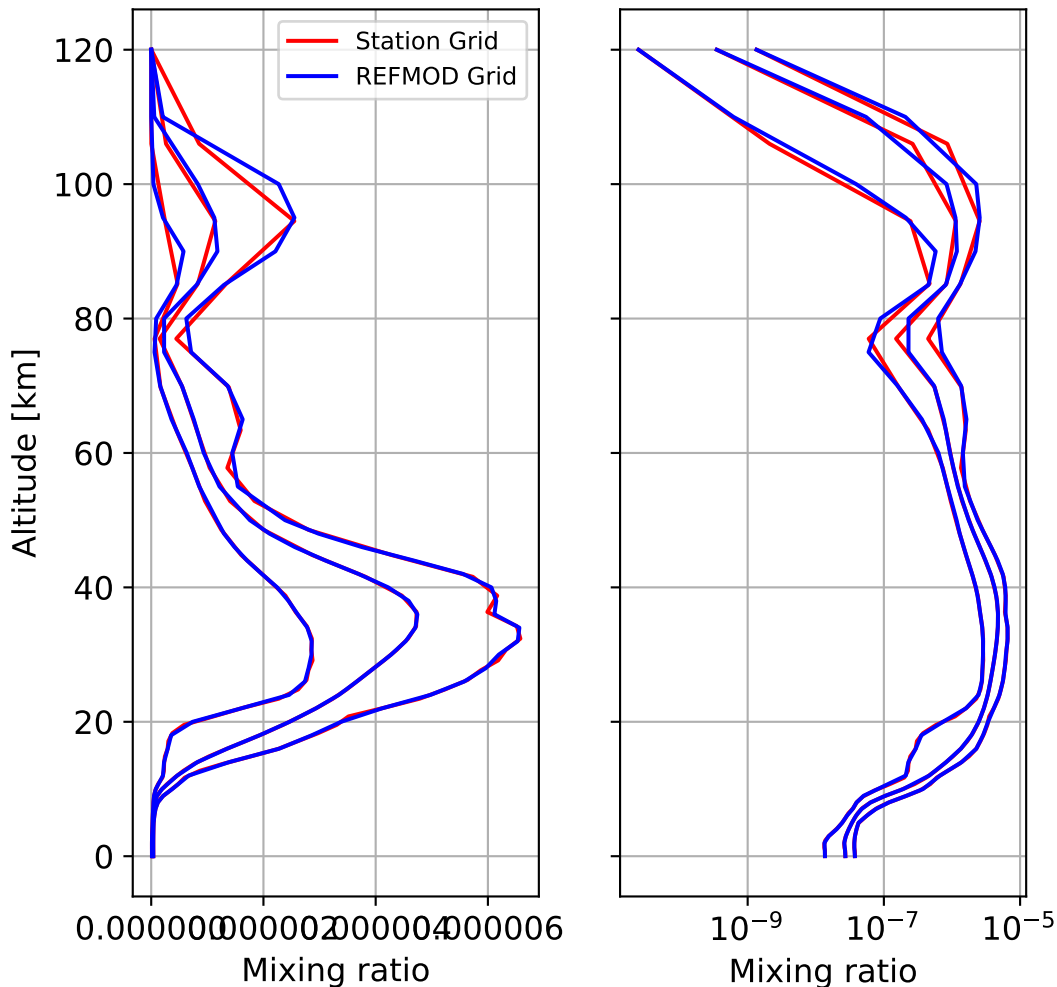
Time Series of vertical profiles (site altitude - 40 km)



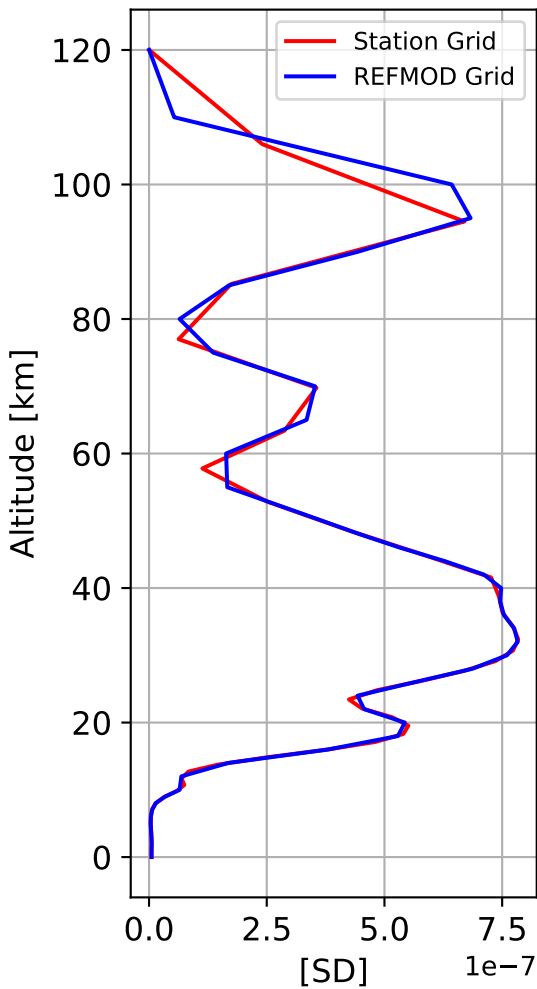
Monthly mean WACCM profile (interpolated to station grid)
Syowa_Station, -69.0N, 39.59E, 0.01kmasl



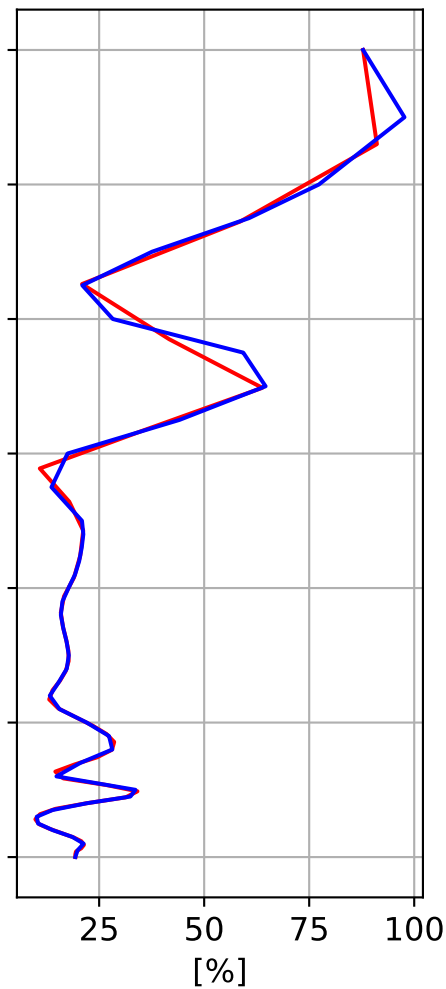
Min, Max, Mean of 732 profiles
Syowa_Station, -69.0N, 39.59E, 0.01kmasl



Std. Deviation



Percent Deviation



Level covariance matrix

 $1e-13$

Altitude [km]

120

100

80

60

40

20

20

Altitude [km]

40

60

80

100

120

6.0
4.8
3.6
2.4
1.2
0.0
-1.2
-2.4
-3.6Mixing ratio[~ 2]