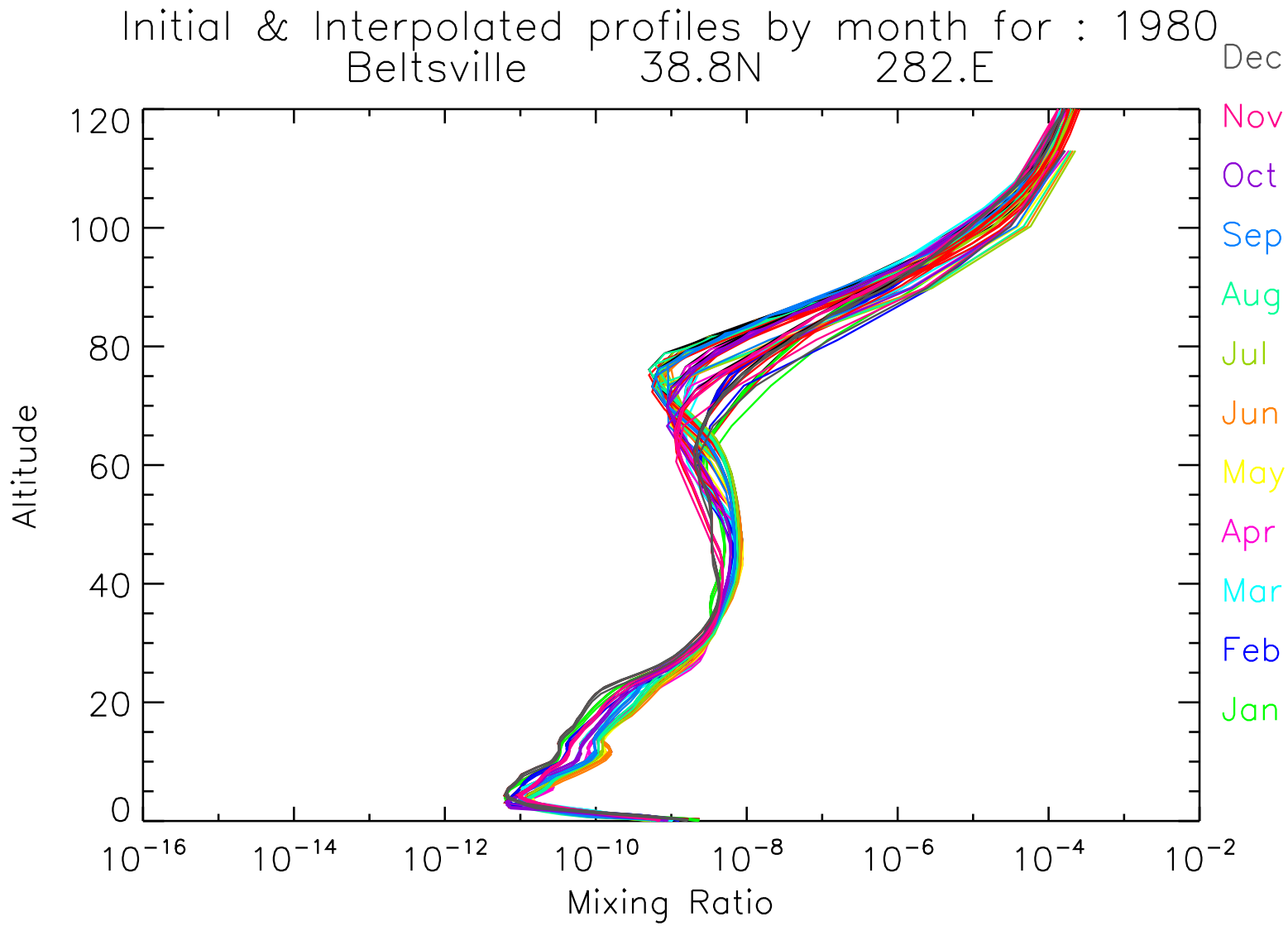
Initial & Interpolated profiles by month for : 1980
Beltsville 38.8N 282.E
Dec
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Altitude
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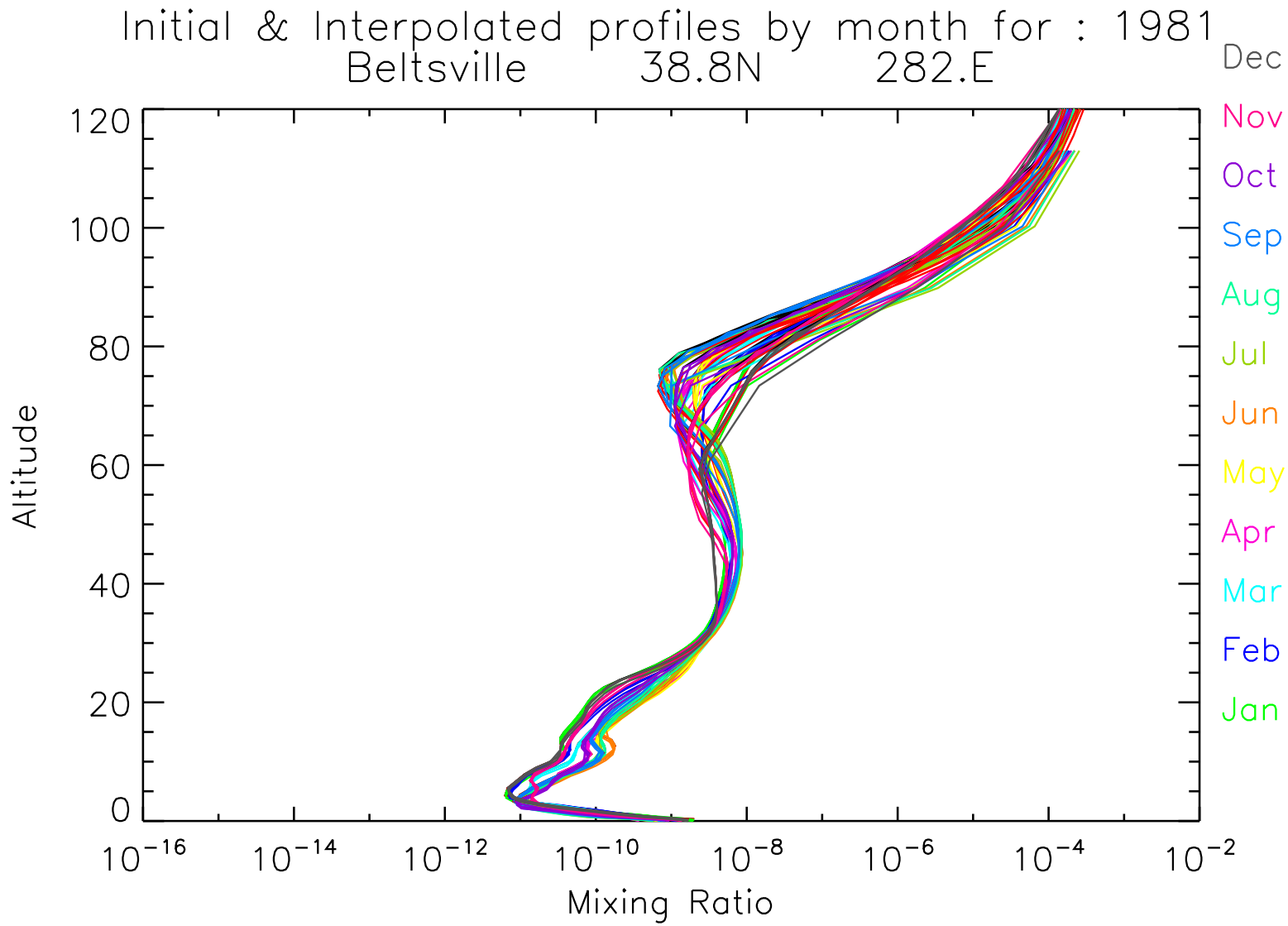
Mixing Ratio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Beltsville 38.8N 282.E
Dec
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Altitude
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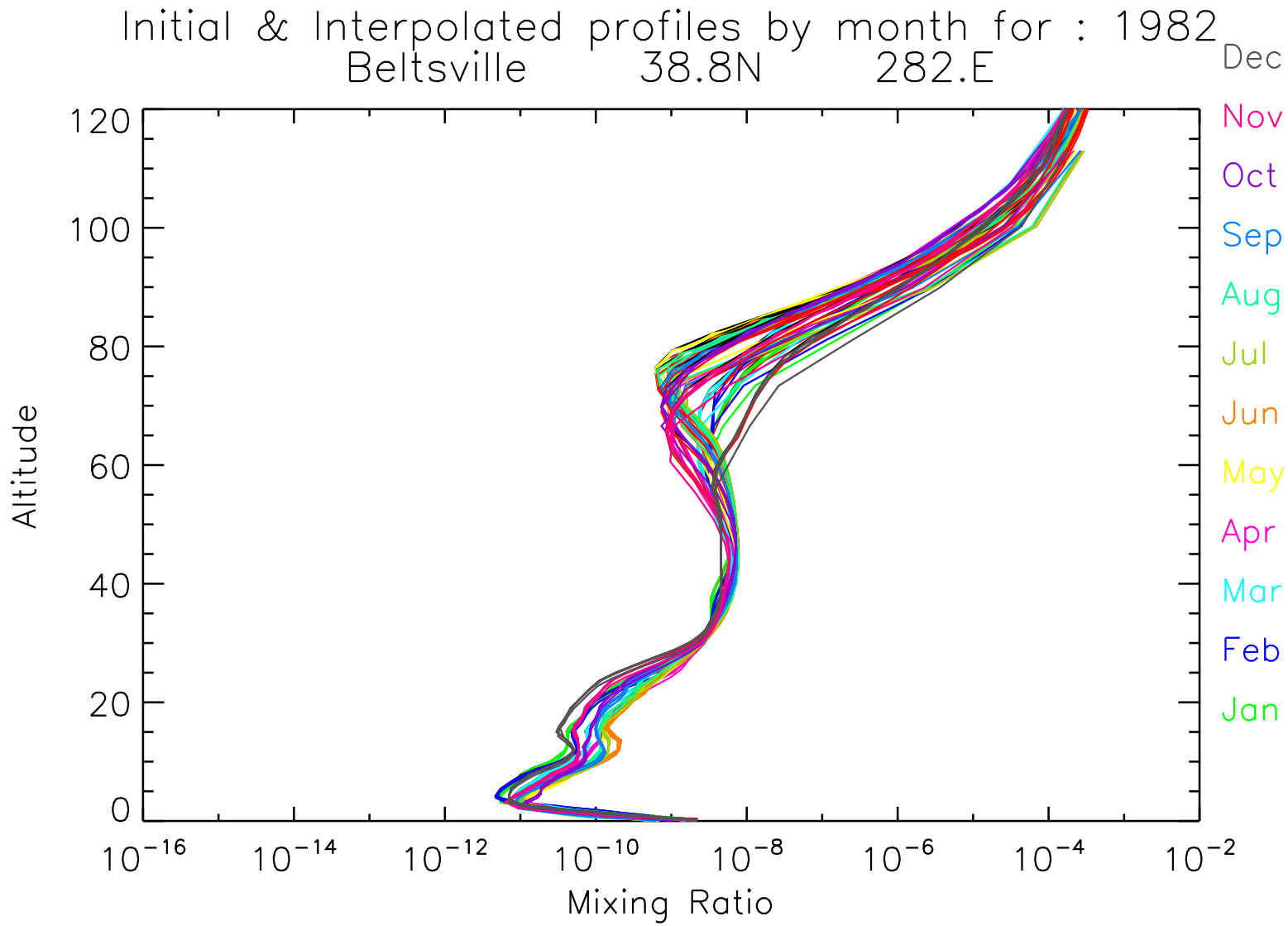
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
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Dec
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Altitude
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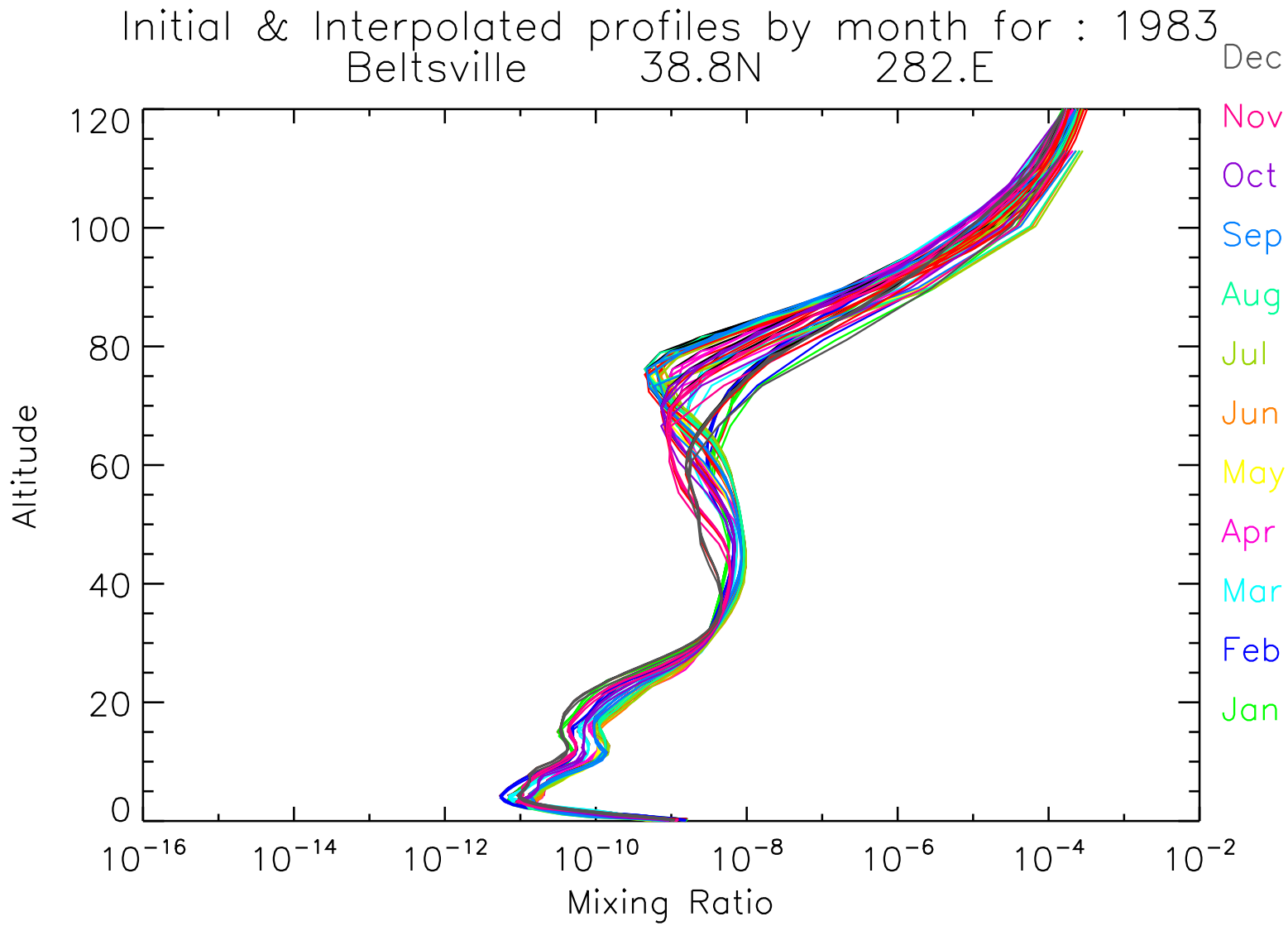
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Beltsville 38.8N 282.E
Dec
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Altitude
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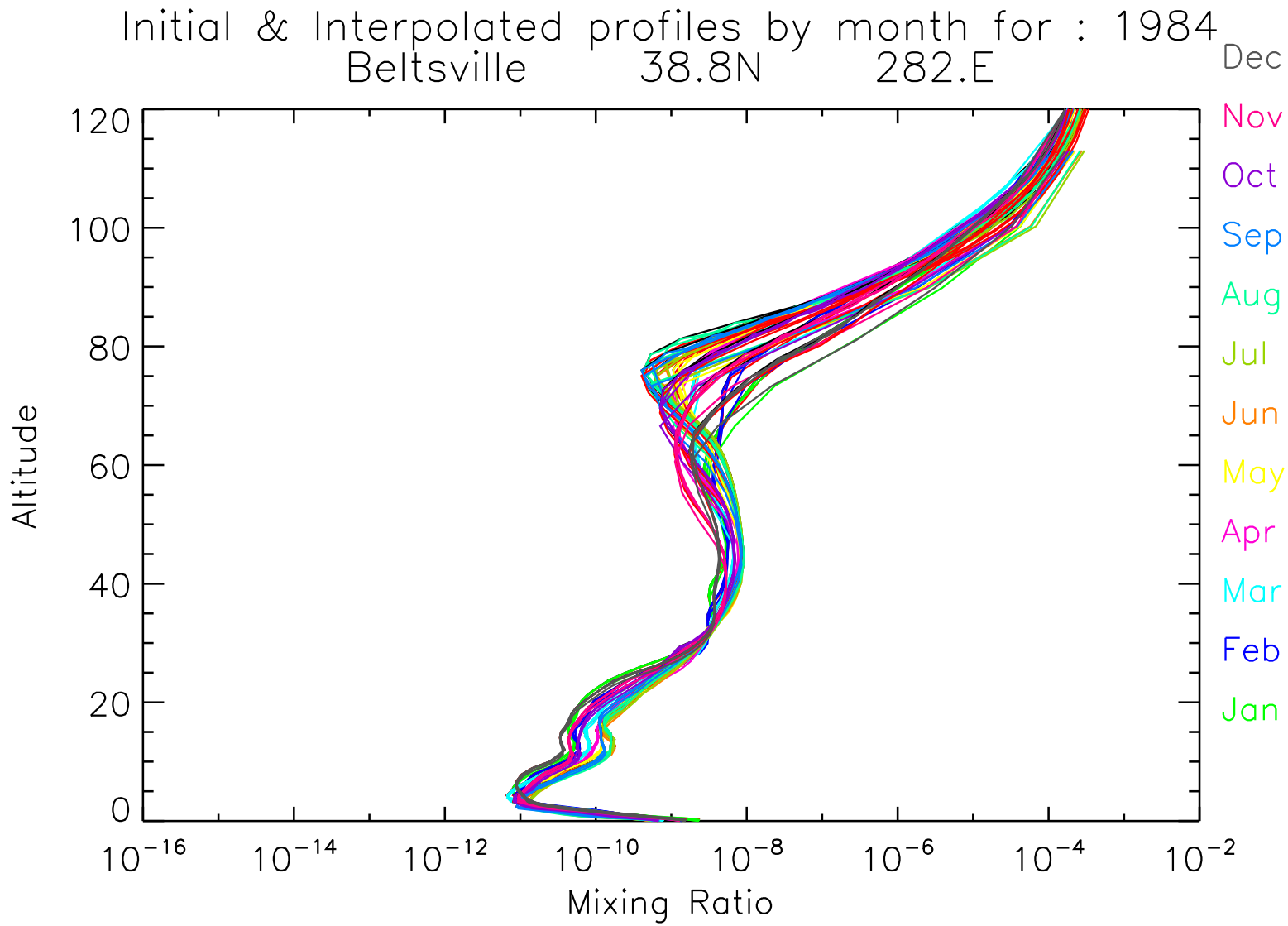
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
Beltsville 38.8N 282.E
Altitude
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Mixing Ratio
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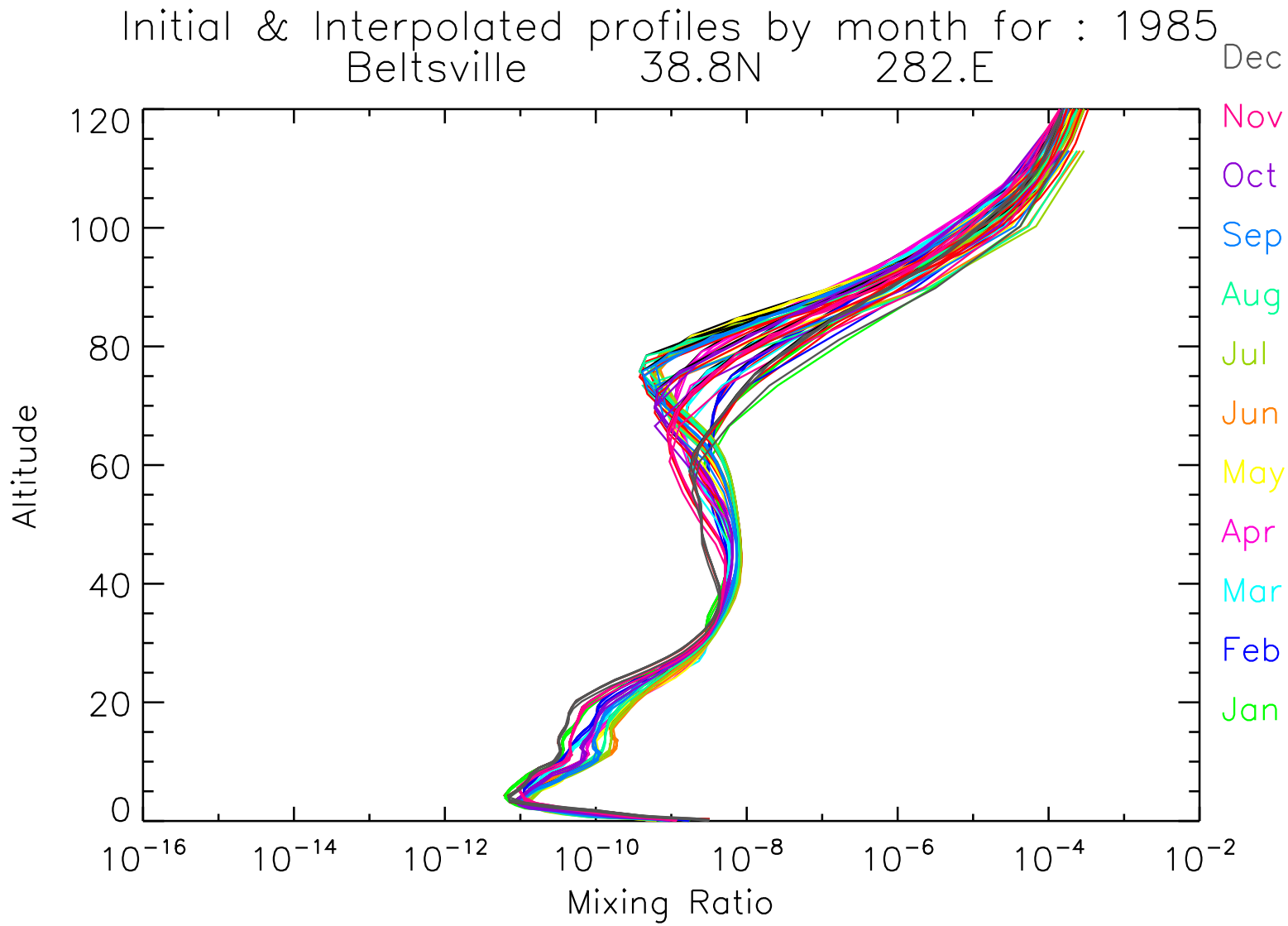
Initial & Interpolated profiles by month for : 1985
Beltsville 38.8N 282.E
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Altitude
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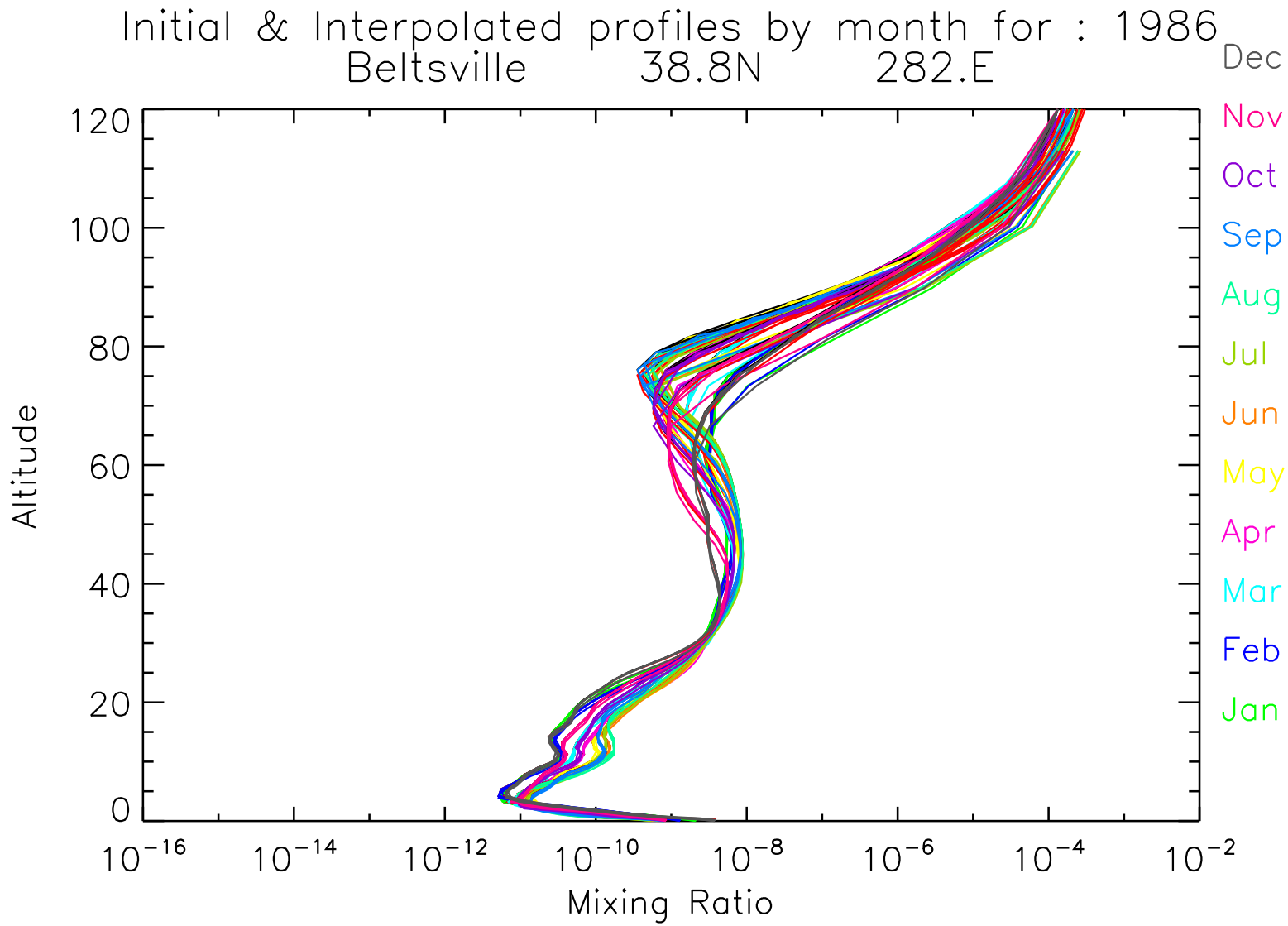
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
Beltsville 38.8N 282.E
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Altitude
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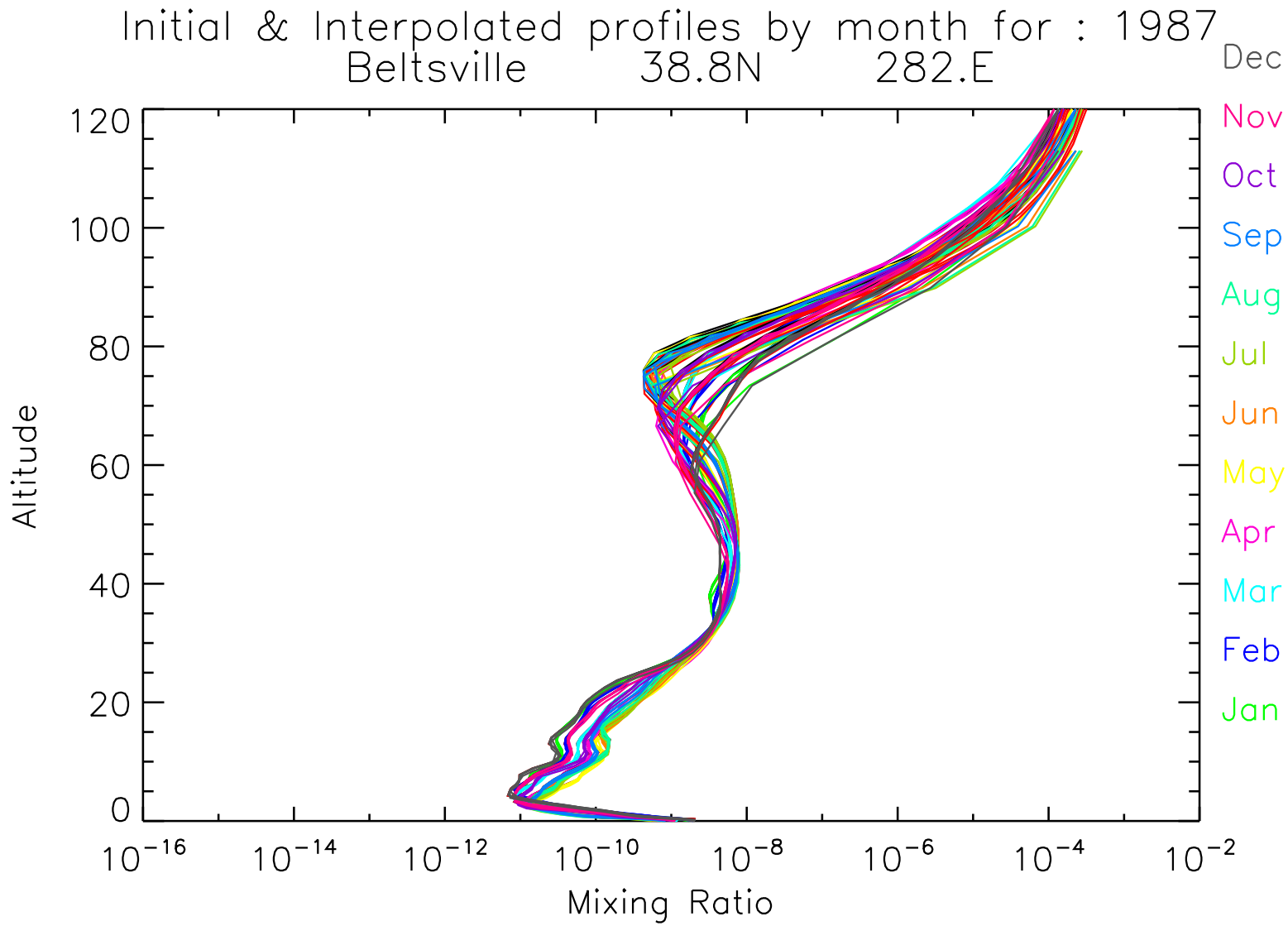
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
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Altitude
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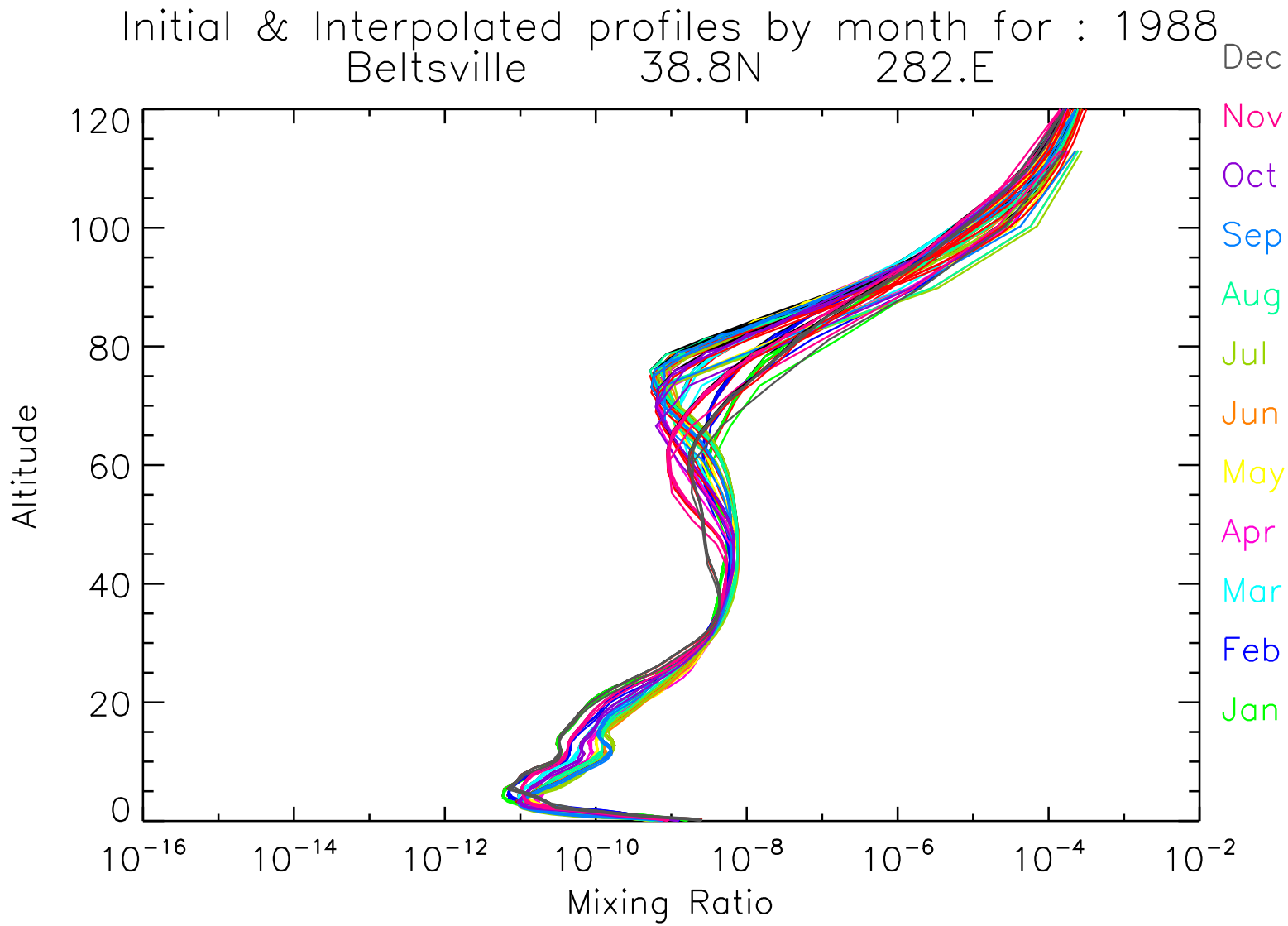
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
Beltsville 38.8N 282.E
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Altitude
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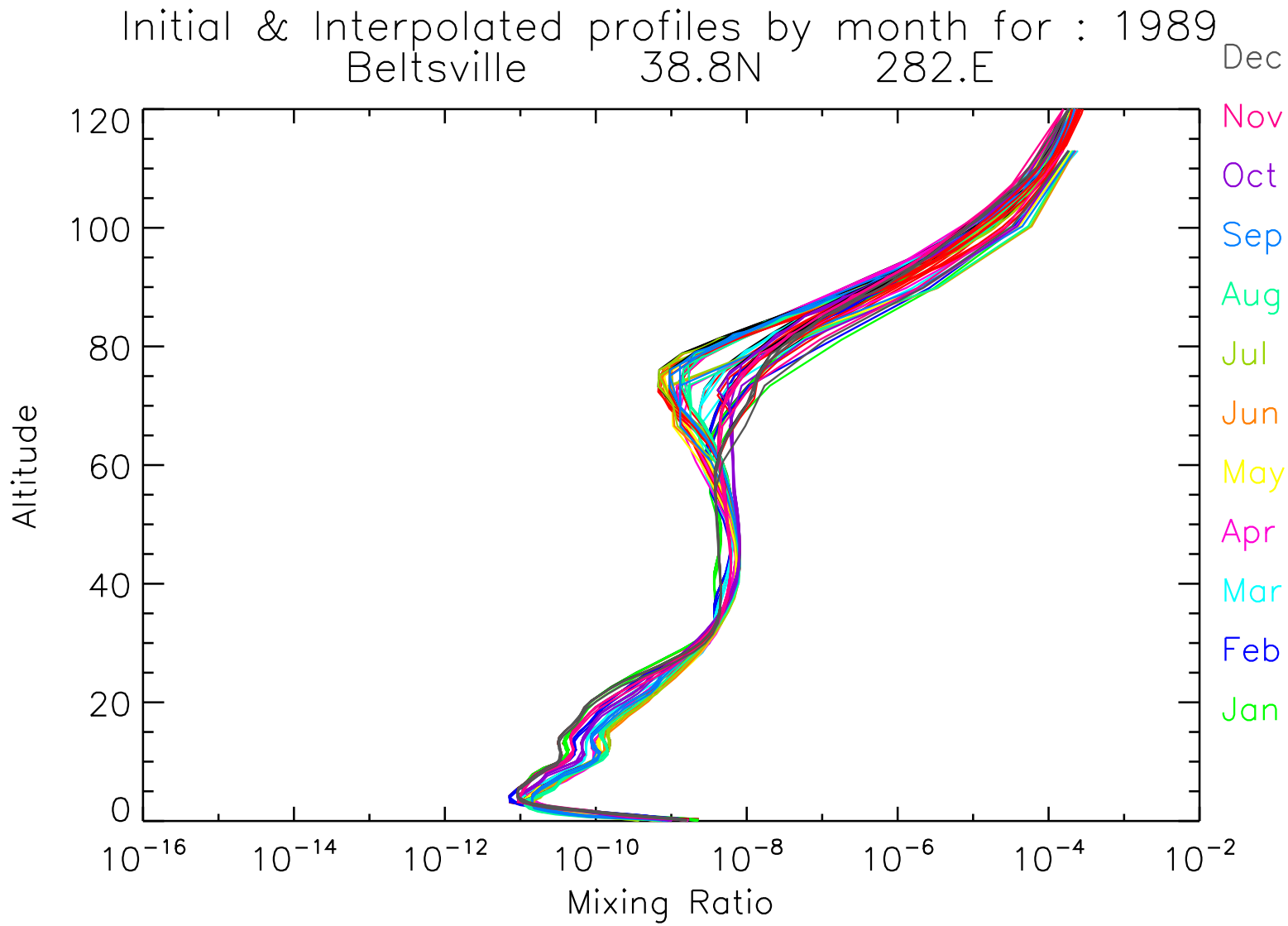
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
Beltsville 38.8N 282.E
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Altitude
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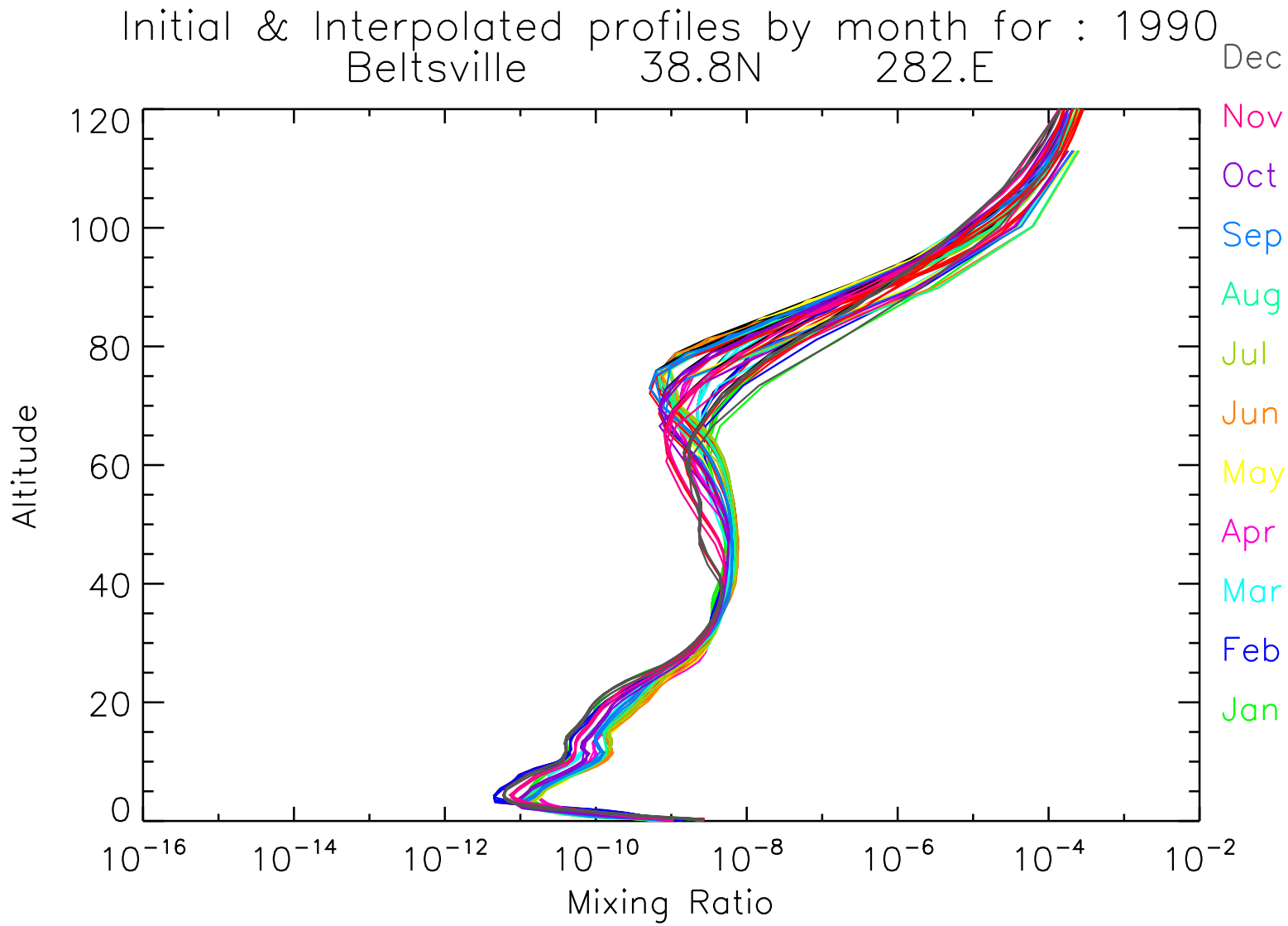
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
Beltsville 38.8N 282.E
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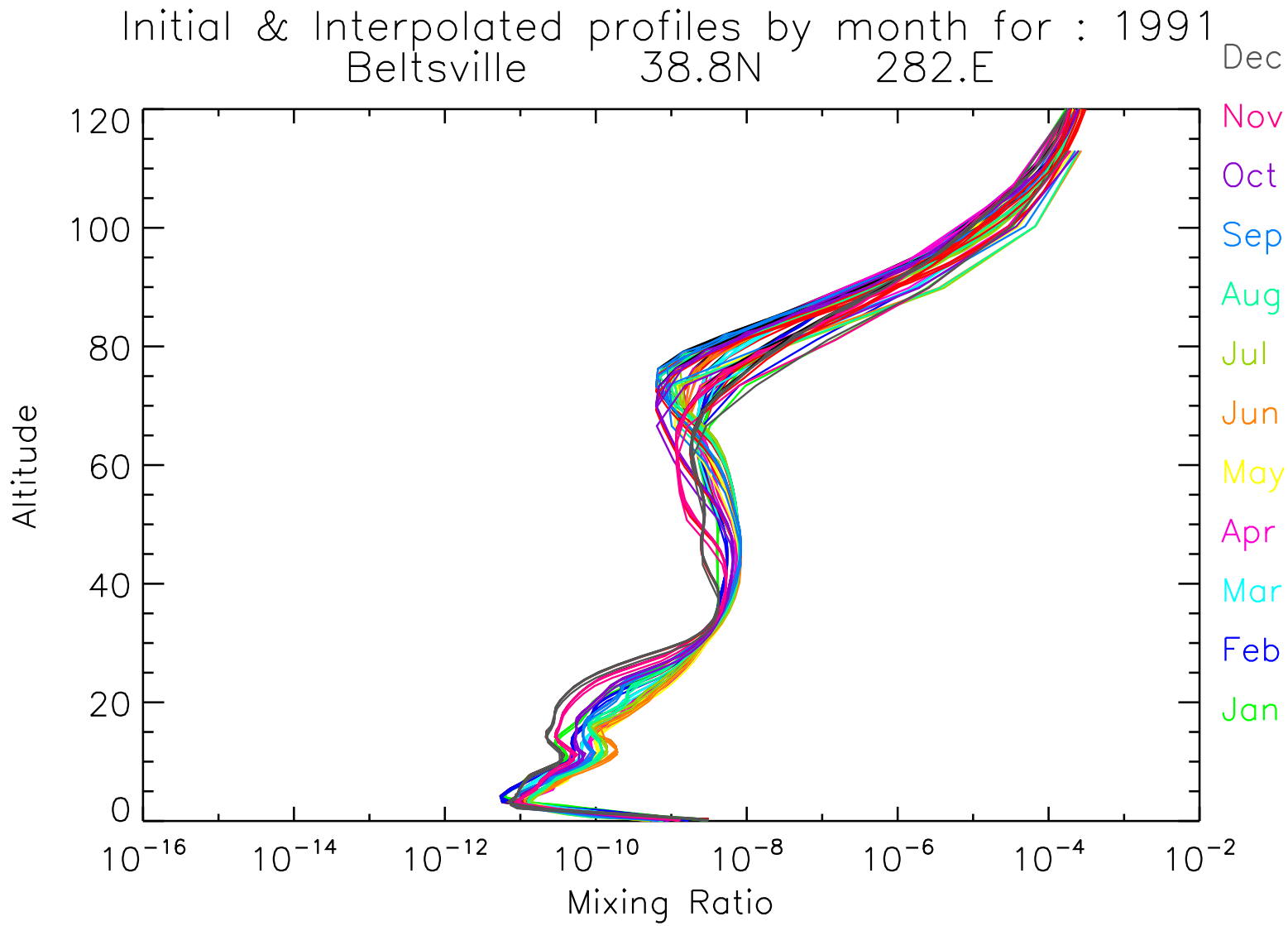
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Beltsville 38.8N 282.E
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Altitude
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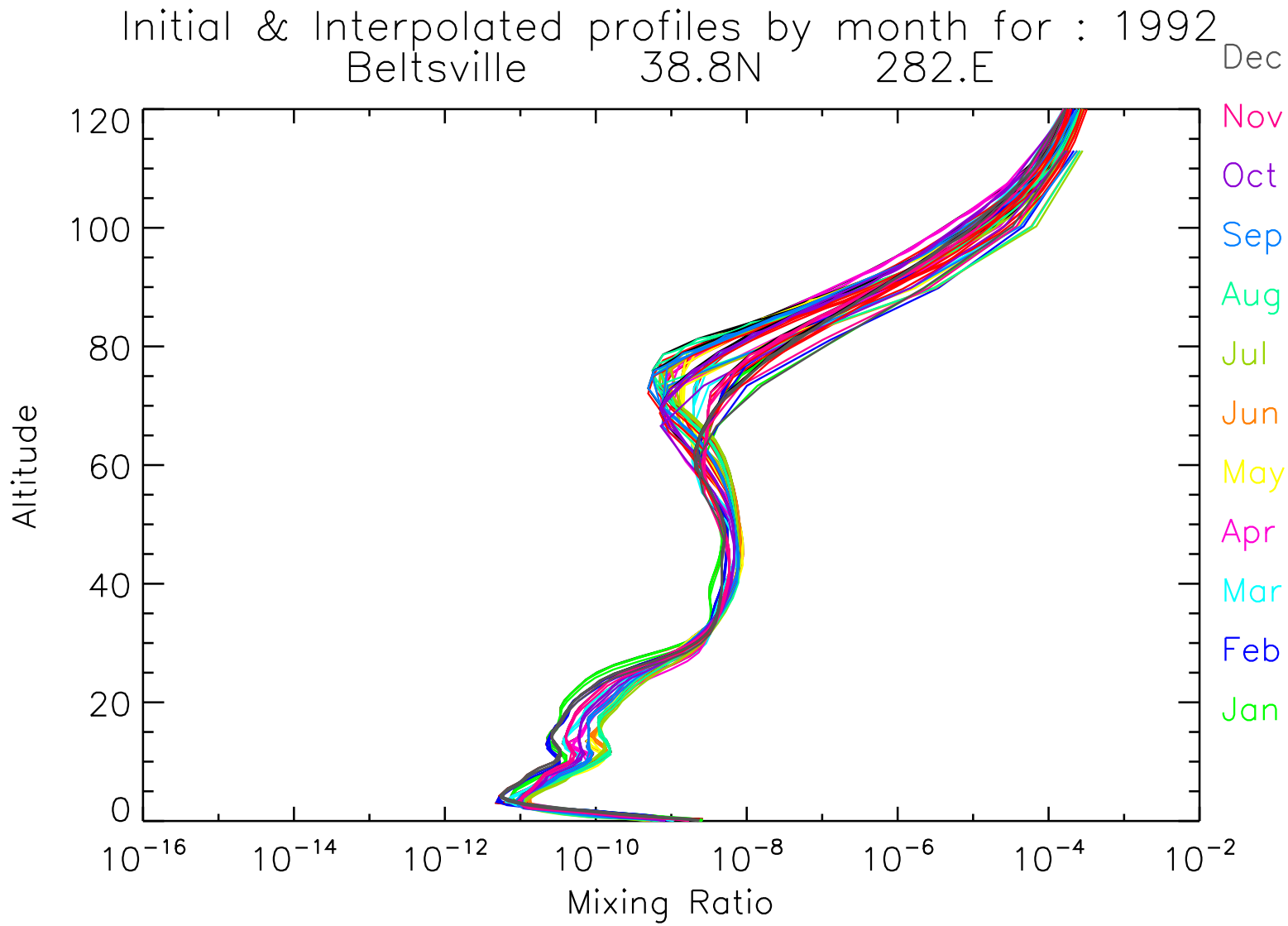
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
Beltsville 38.8N 282.E
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Altitude
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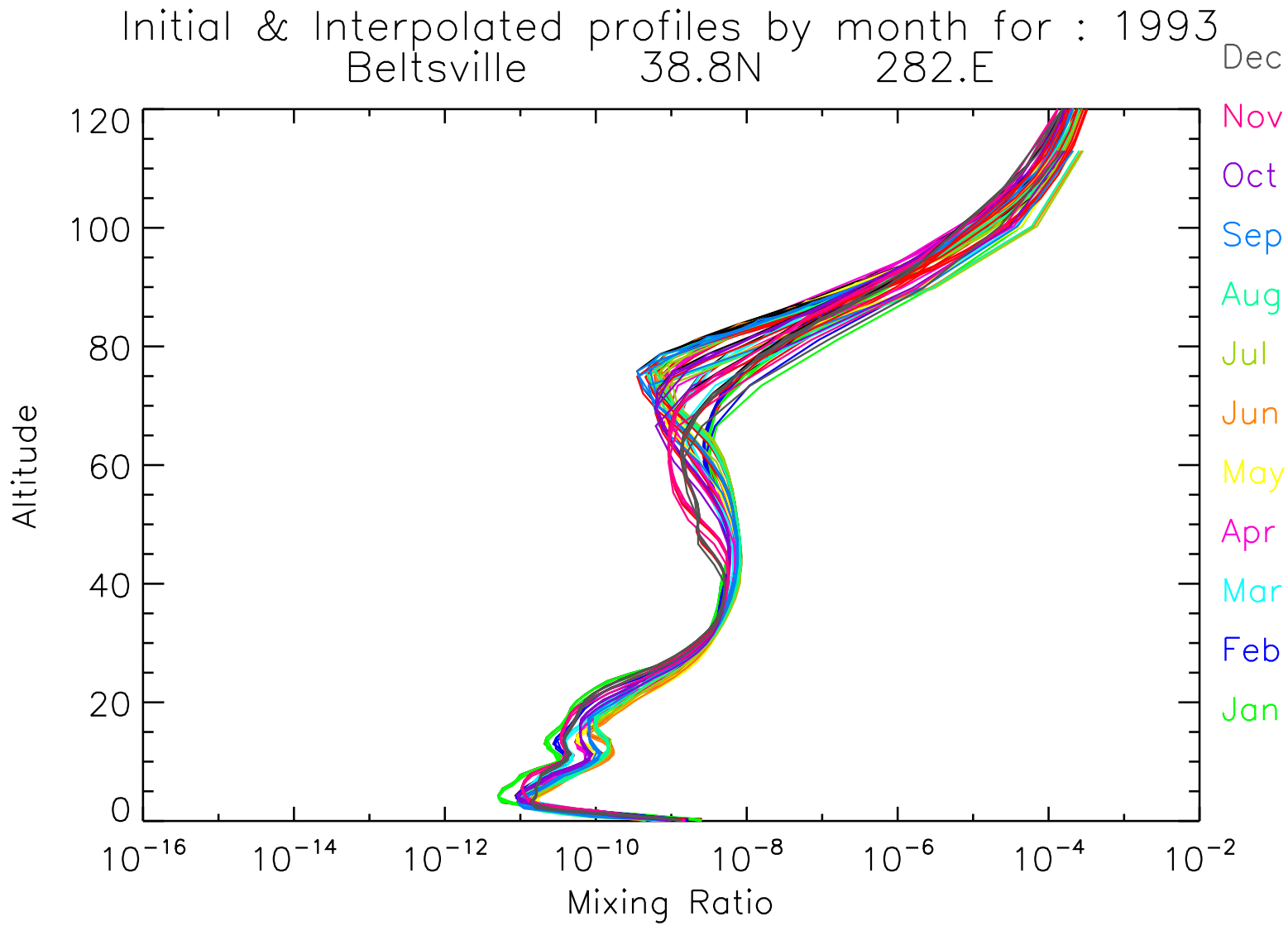
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
Beltsville 38.8N 282.E
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Altitude
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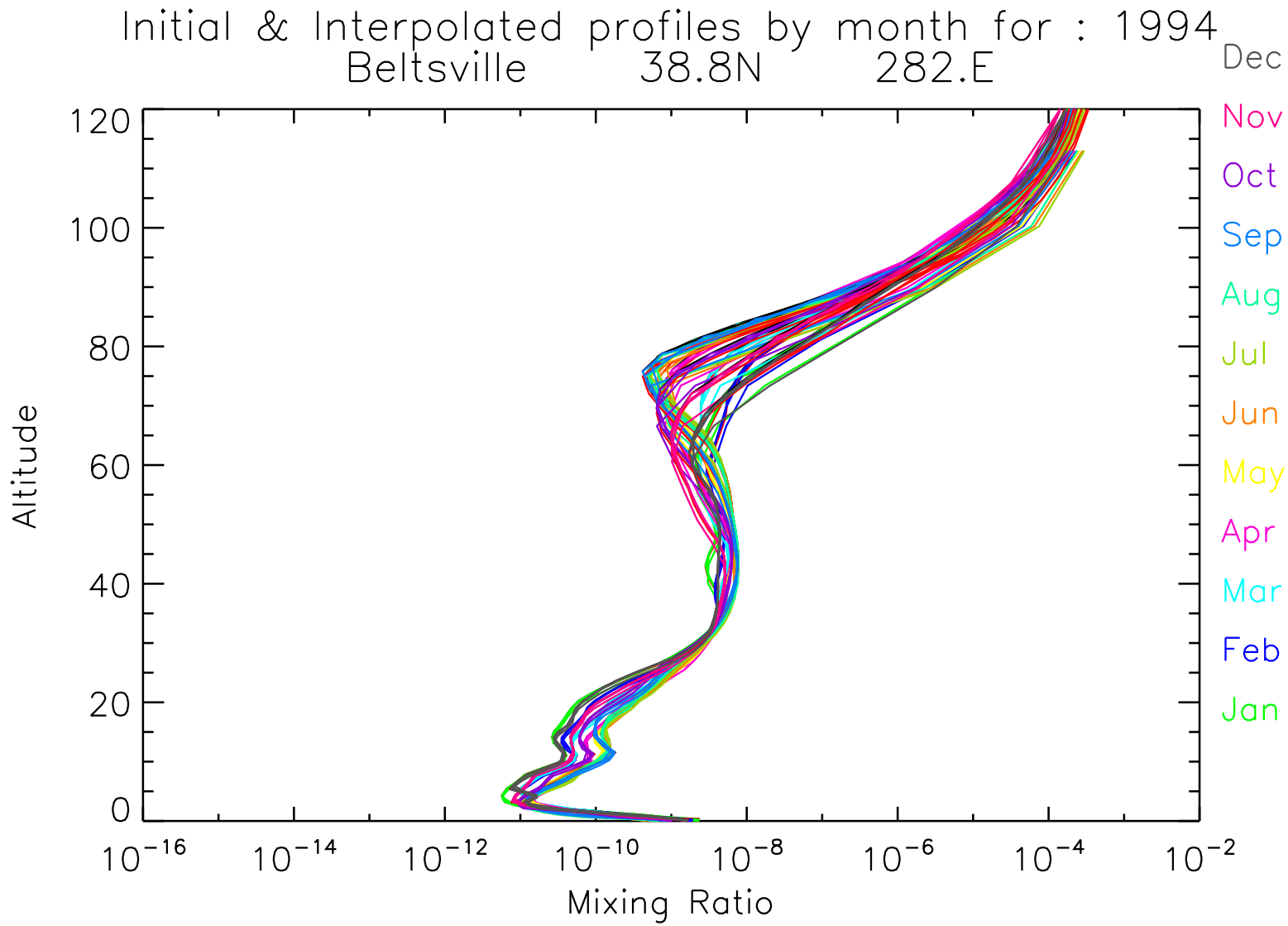
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Beltsville 38.8N 282.E
Altitude
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Mixing Ratio
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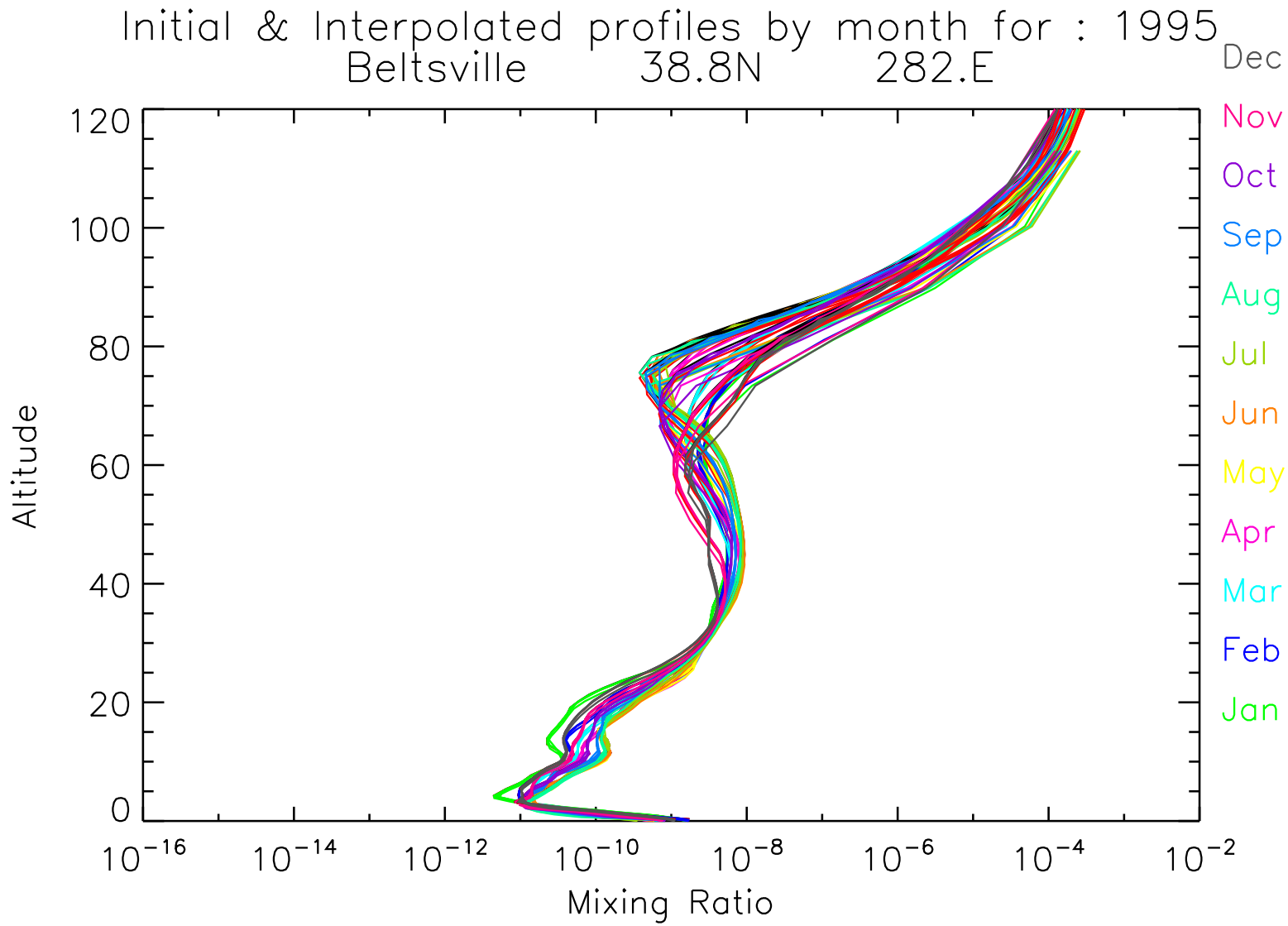
Initial & Interpolated profiles by month for : 1995
Beltsville 38.8N 282.E
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Altitude
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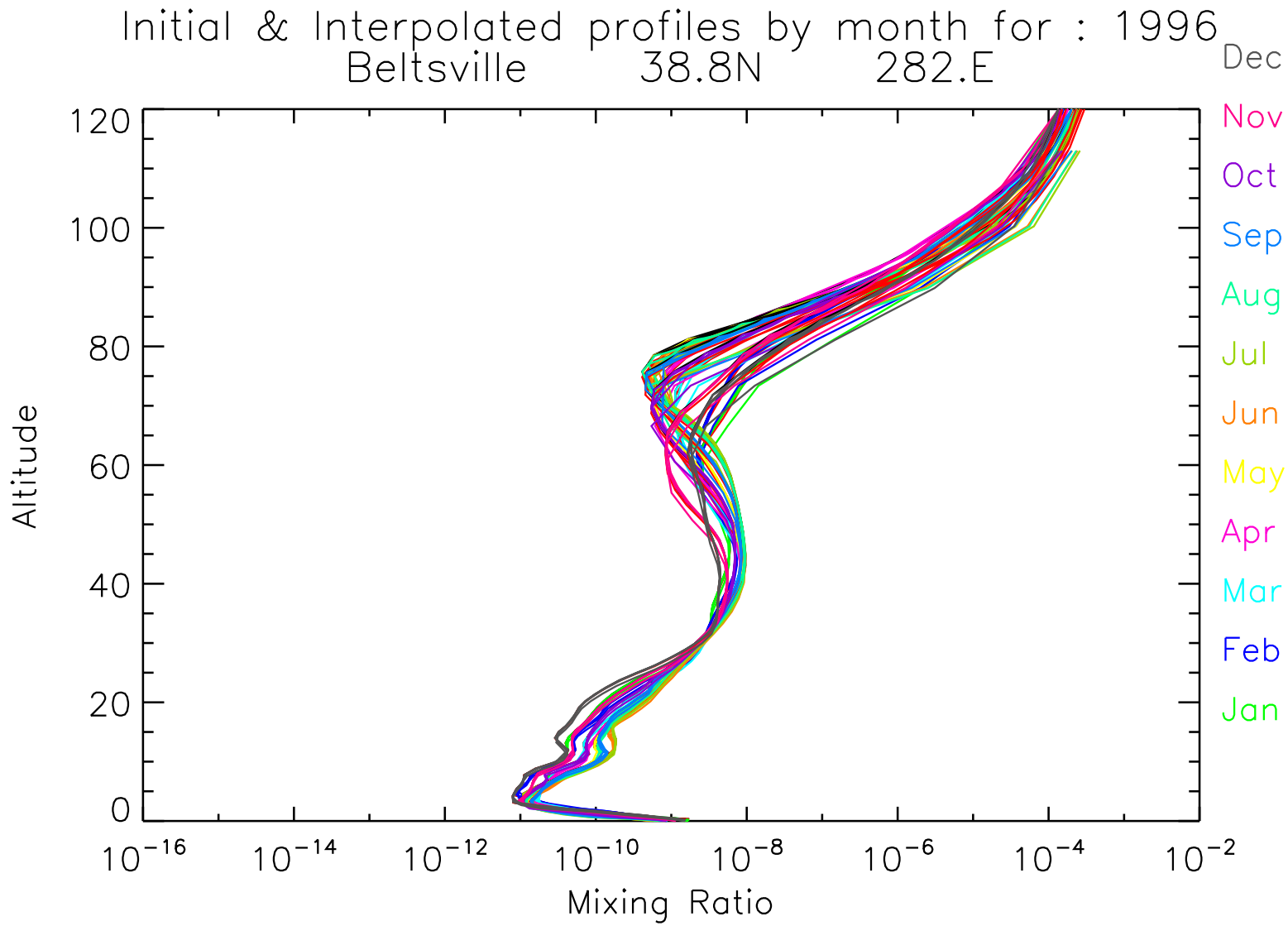
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
Beltsville 38.8N 282.E
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Altitude
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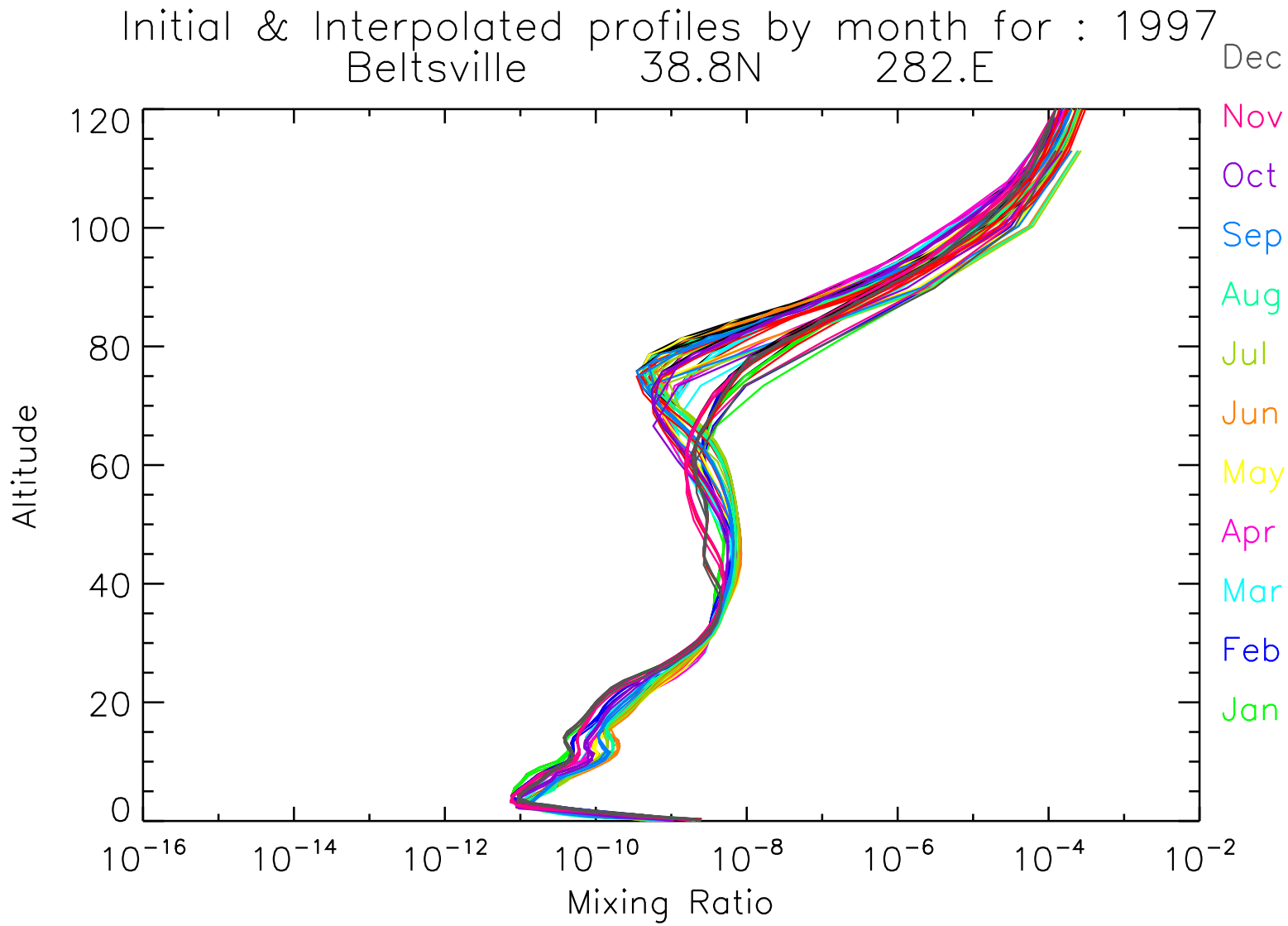
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Beltsville 38.8N 282.E
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Altitude
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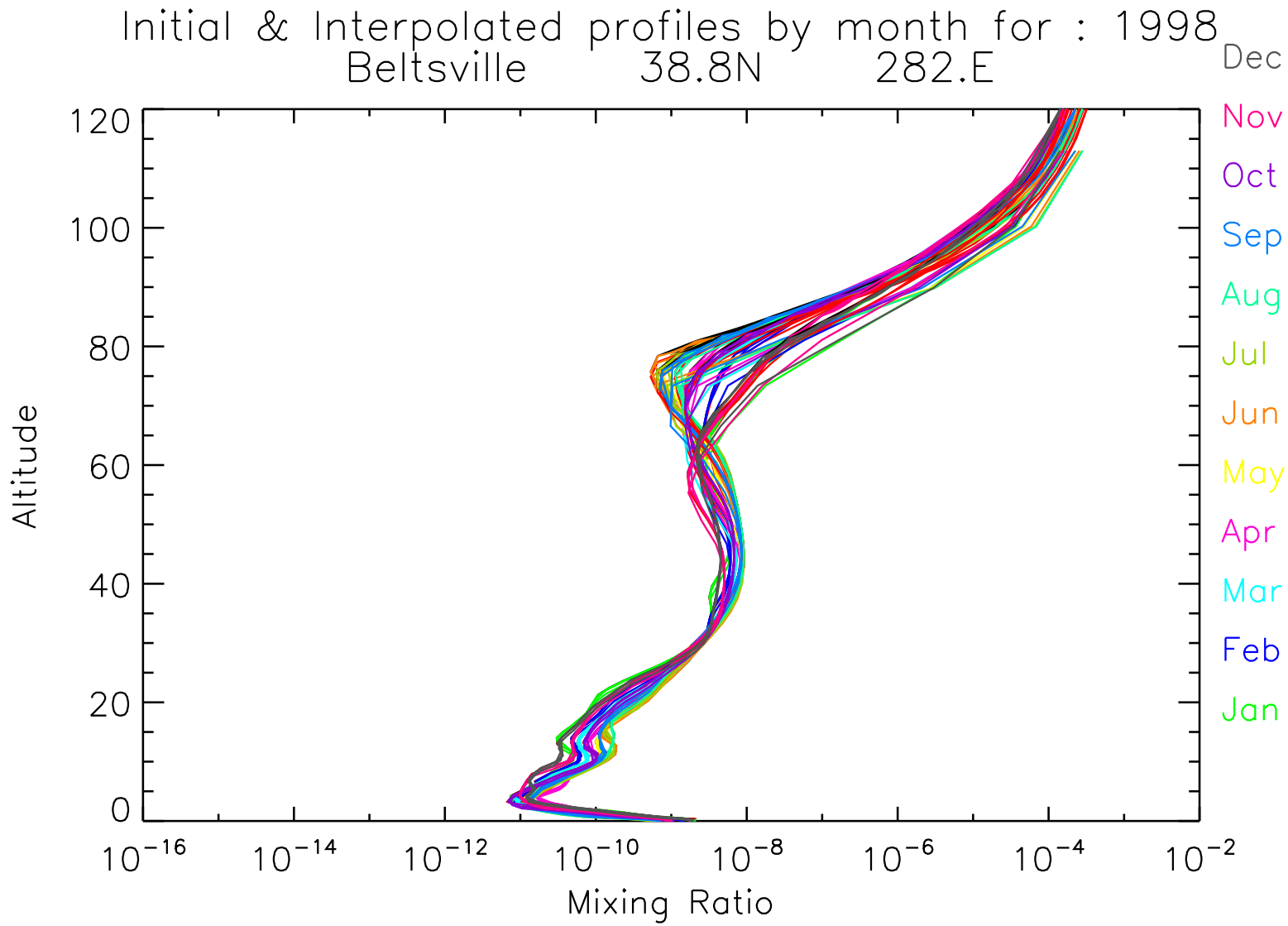
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Beltsville 38.8N 282.E
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Altitude
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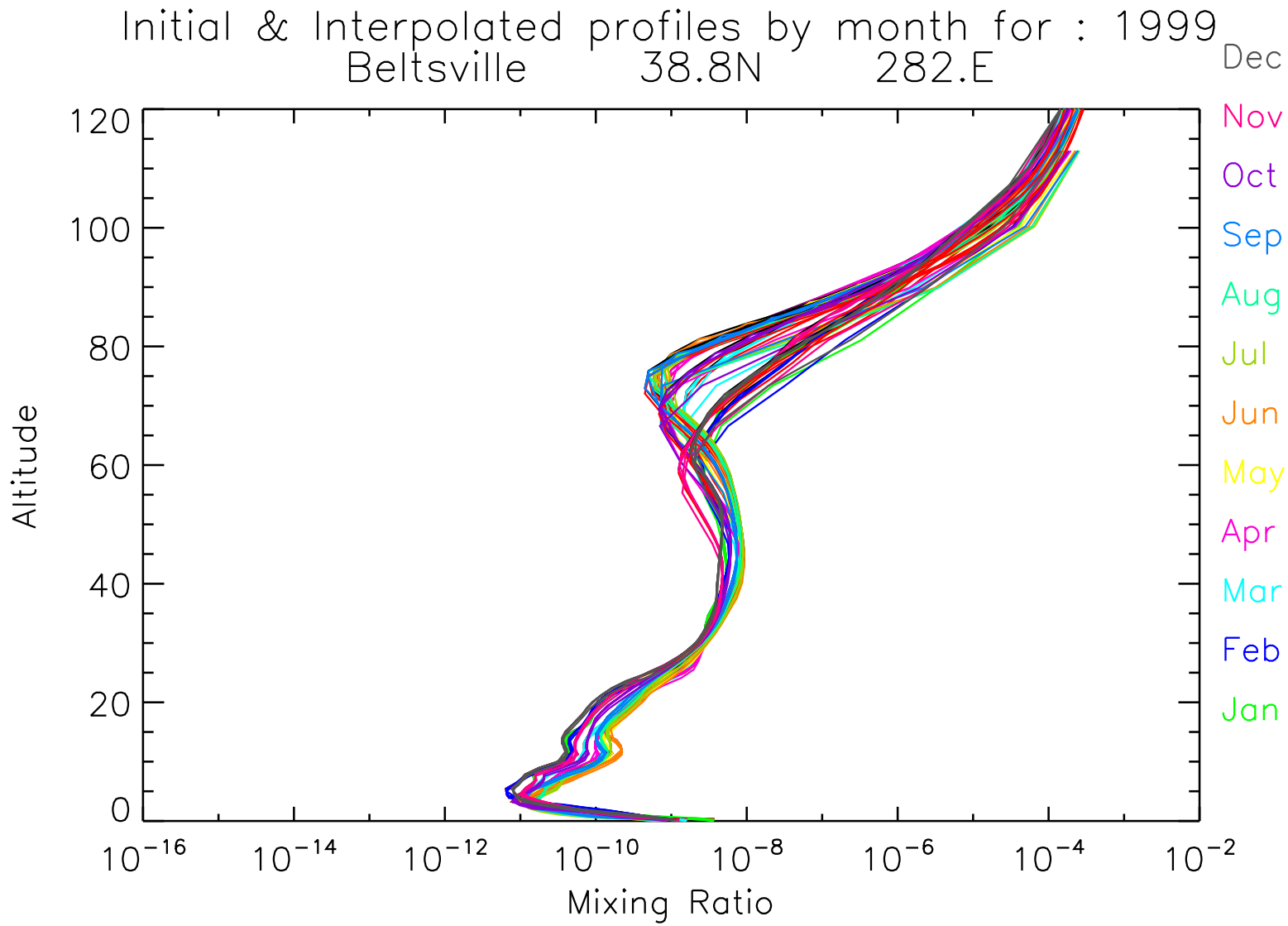
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Beltsville 38.8N 282.E
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Altitude
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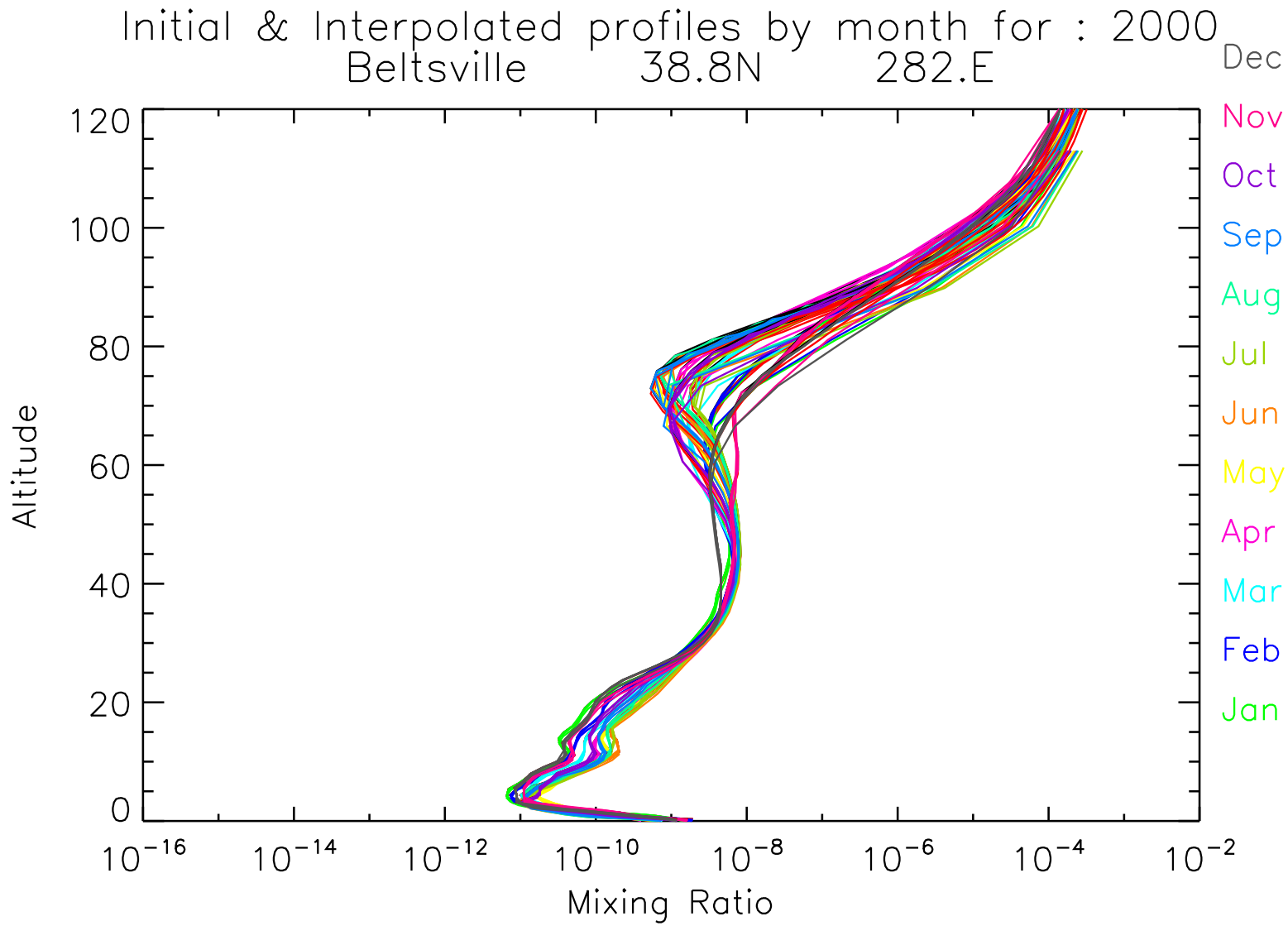
Mixing Ratio


Initial & Interpolated profiles by month for : 2000
Beltsville 38.8N 282.E
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Altitude
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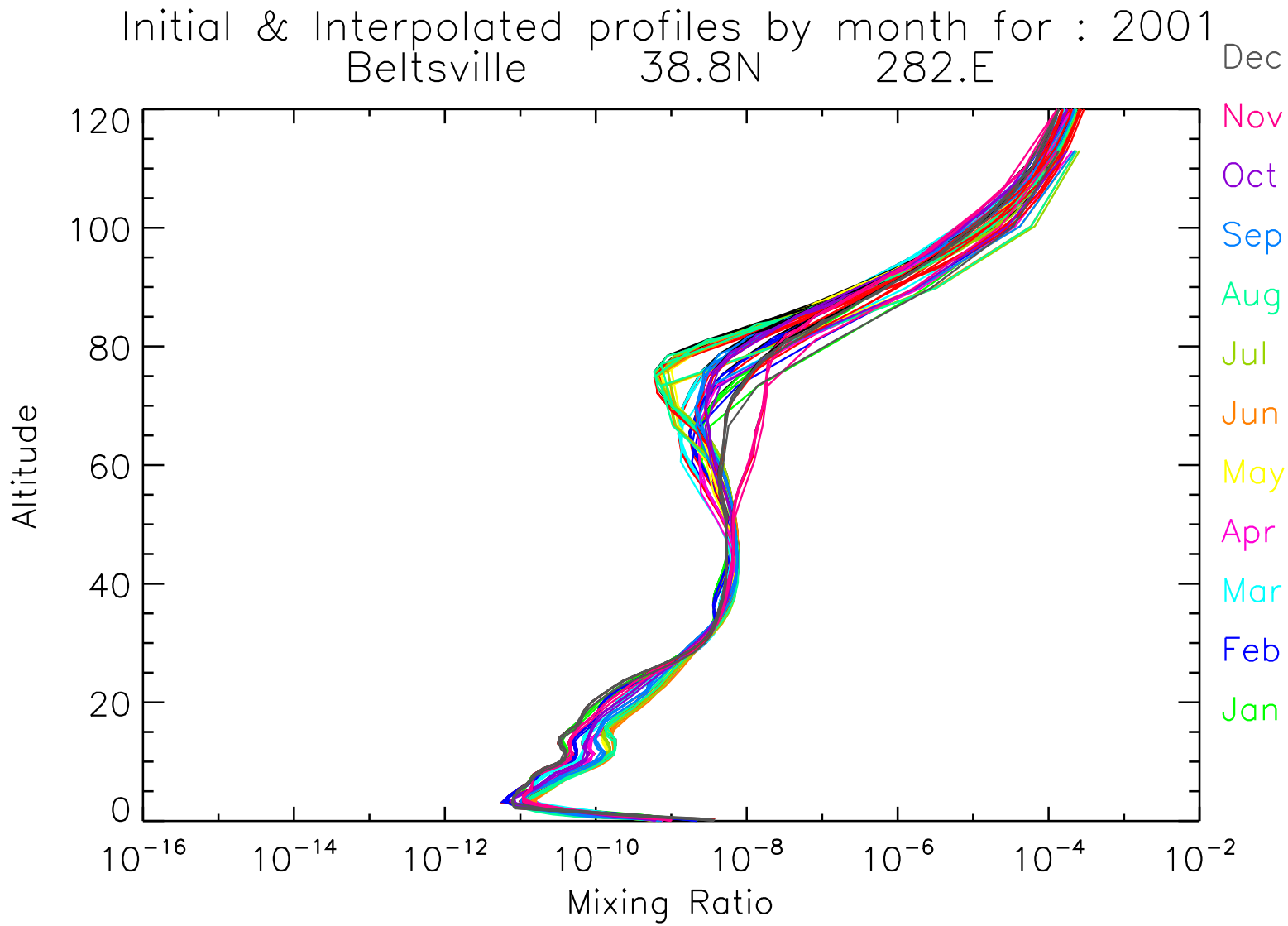
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Beltsville 38.8N 282.E
Altitude
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Mixing Ratio
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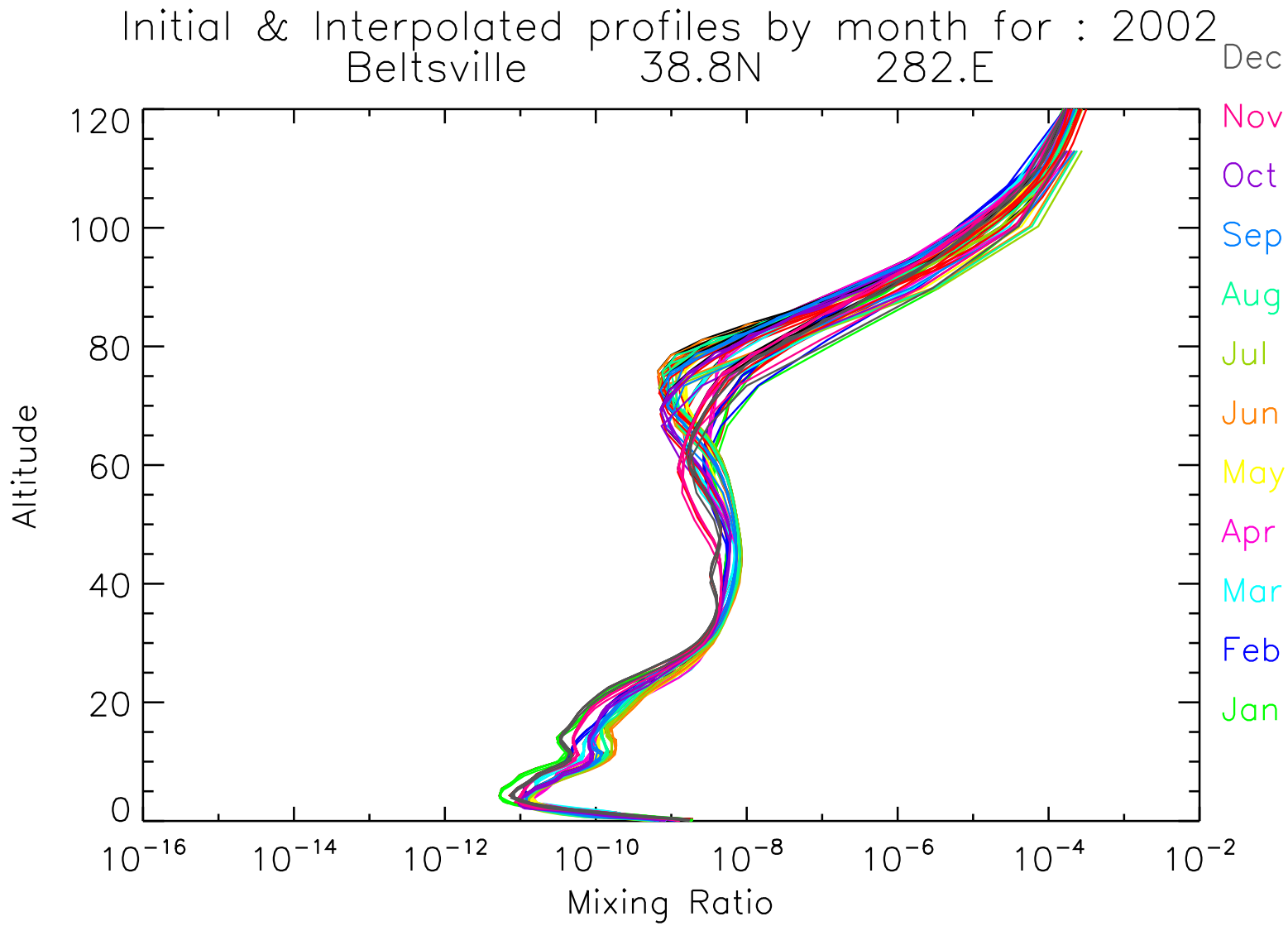
Initial & Interpolated profiles by month for : 2002
Beltsville 38.8N 282.E
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Altitude
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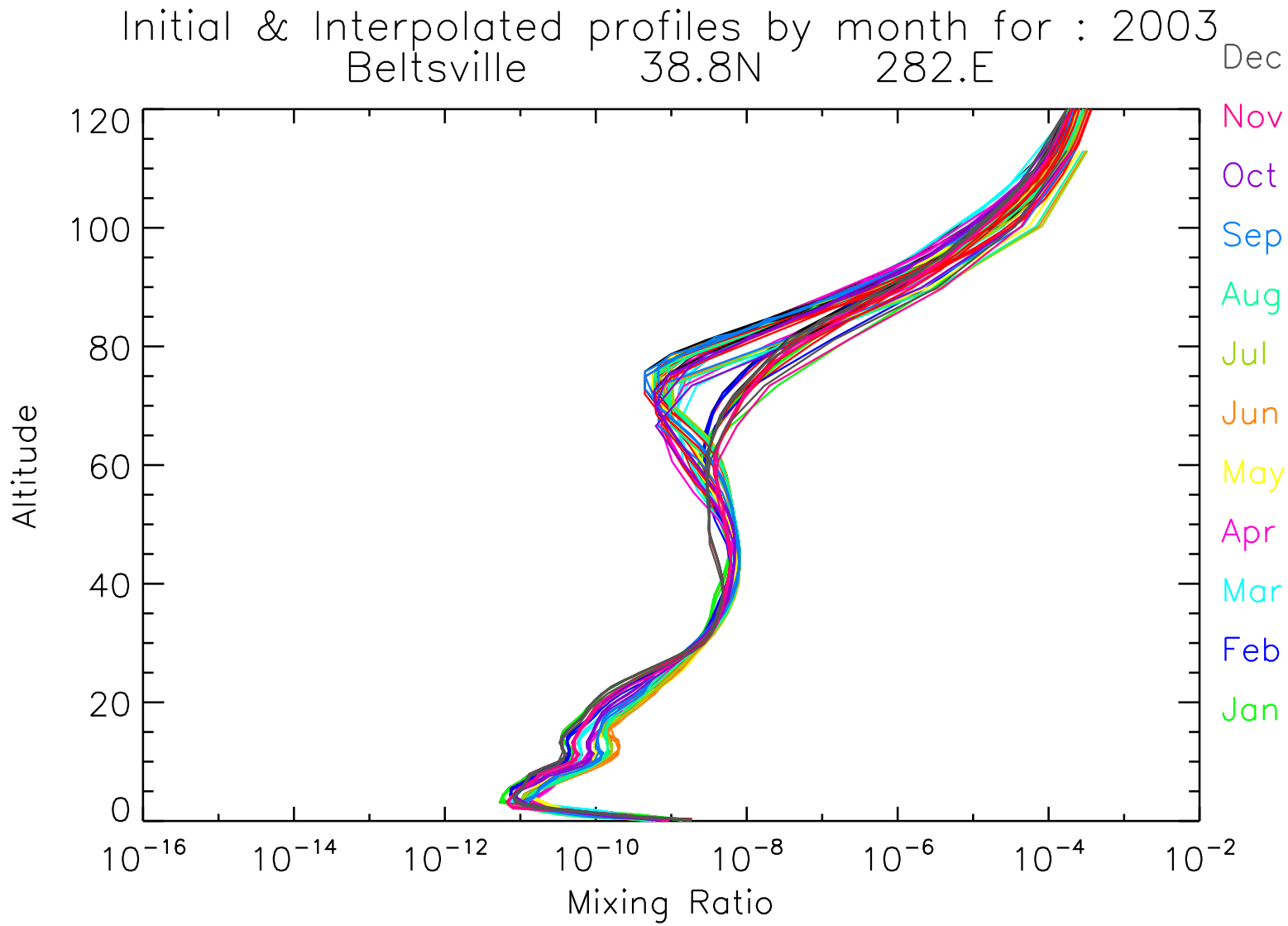
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Beltsville 38.8N 282.E
Altitude
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Mixing Ratio
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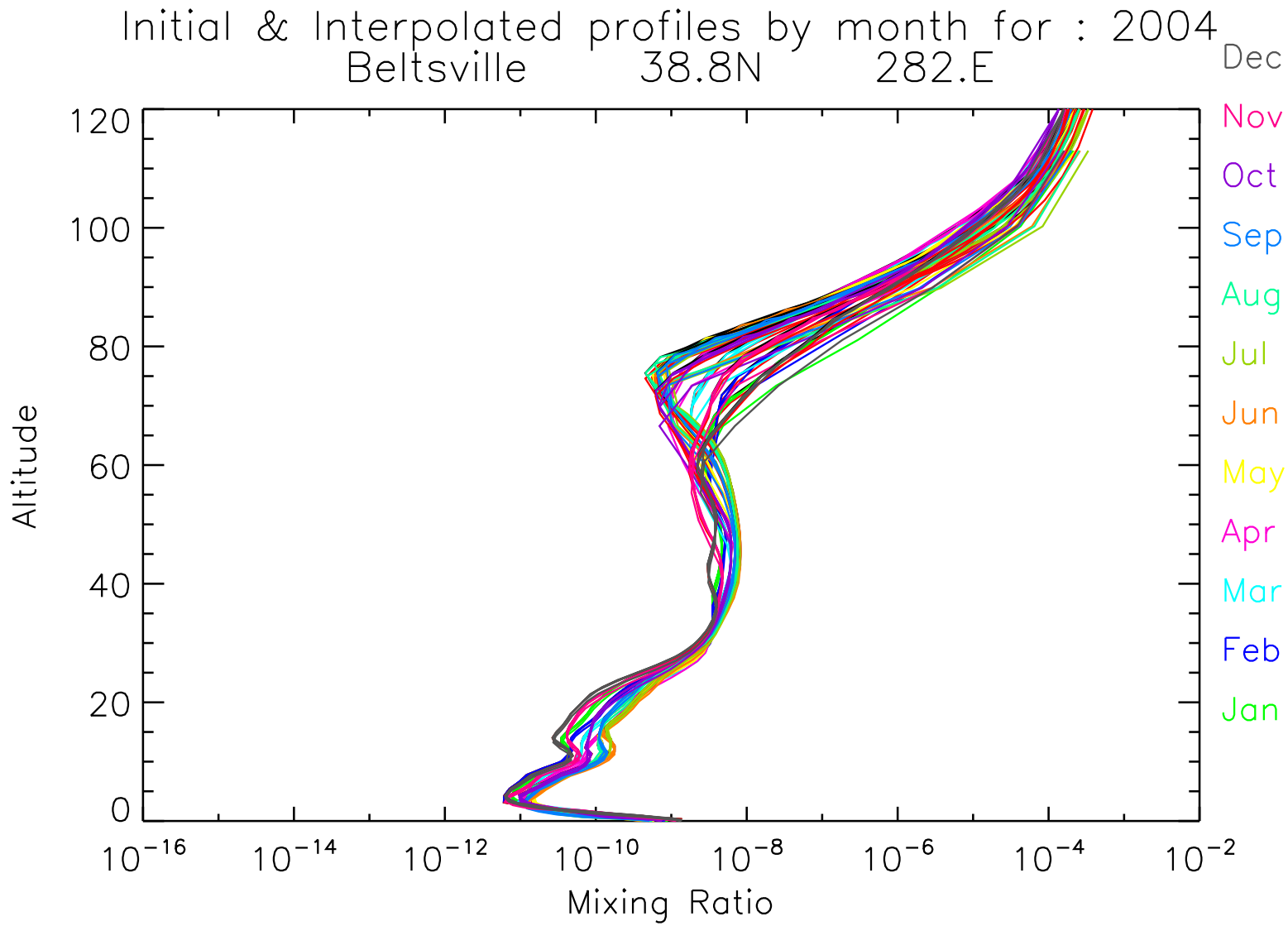
Initial & Interpolated profiles by month for : 2004
Beltsville 38.8N 282.E
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Altitude
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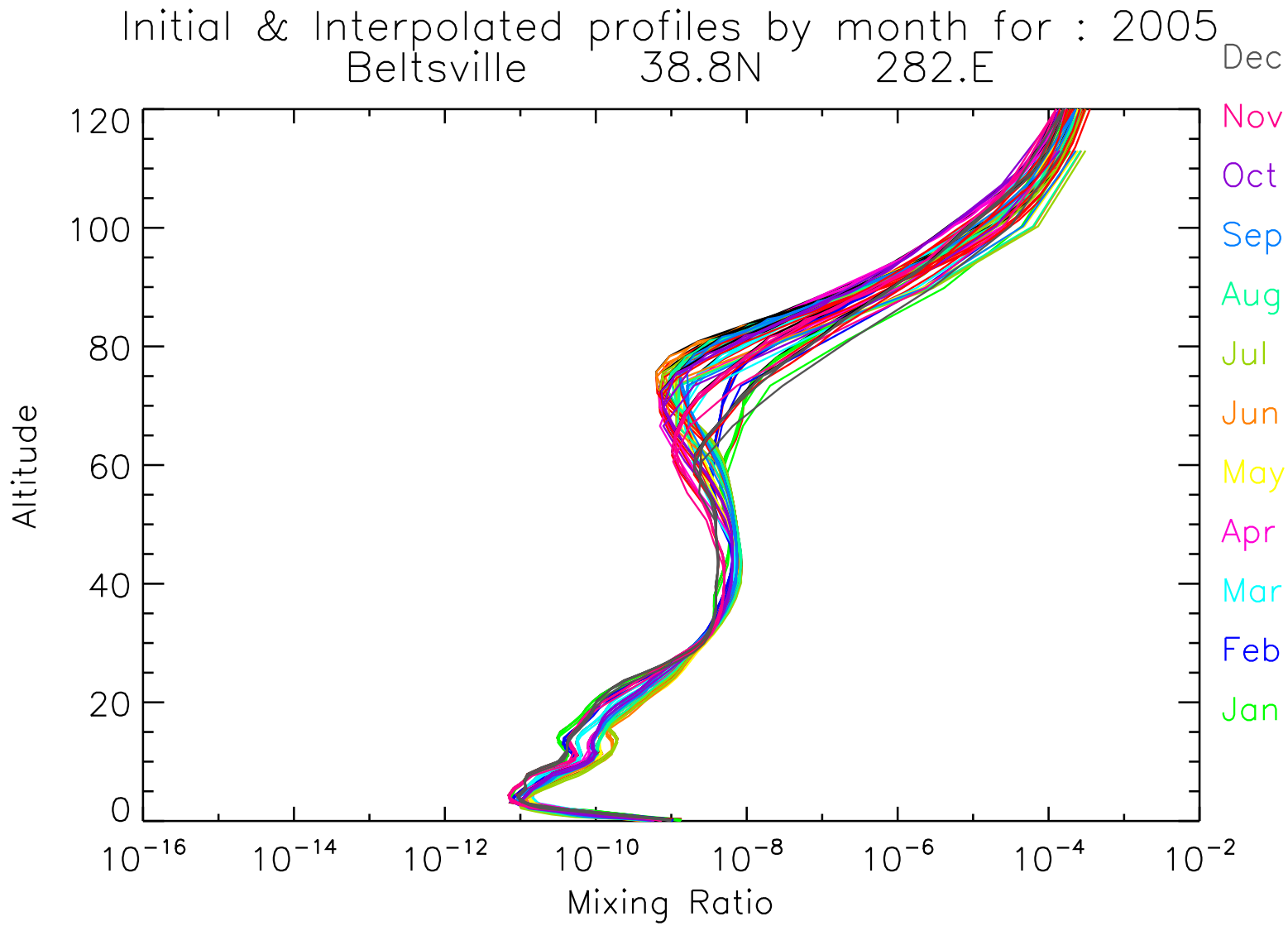
Mixing Ratio


Initial & Interpolated profiles by month for : 2005
Beltsville 38.8N 282.E
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Altitude
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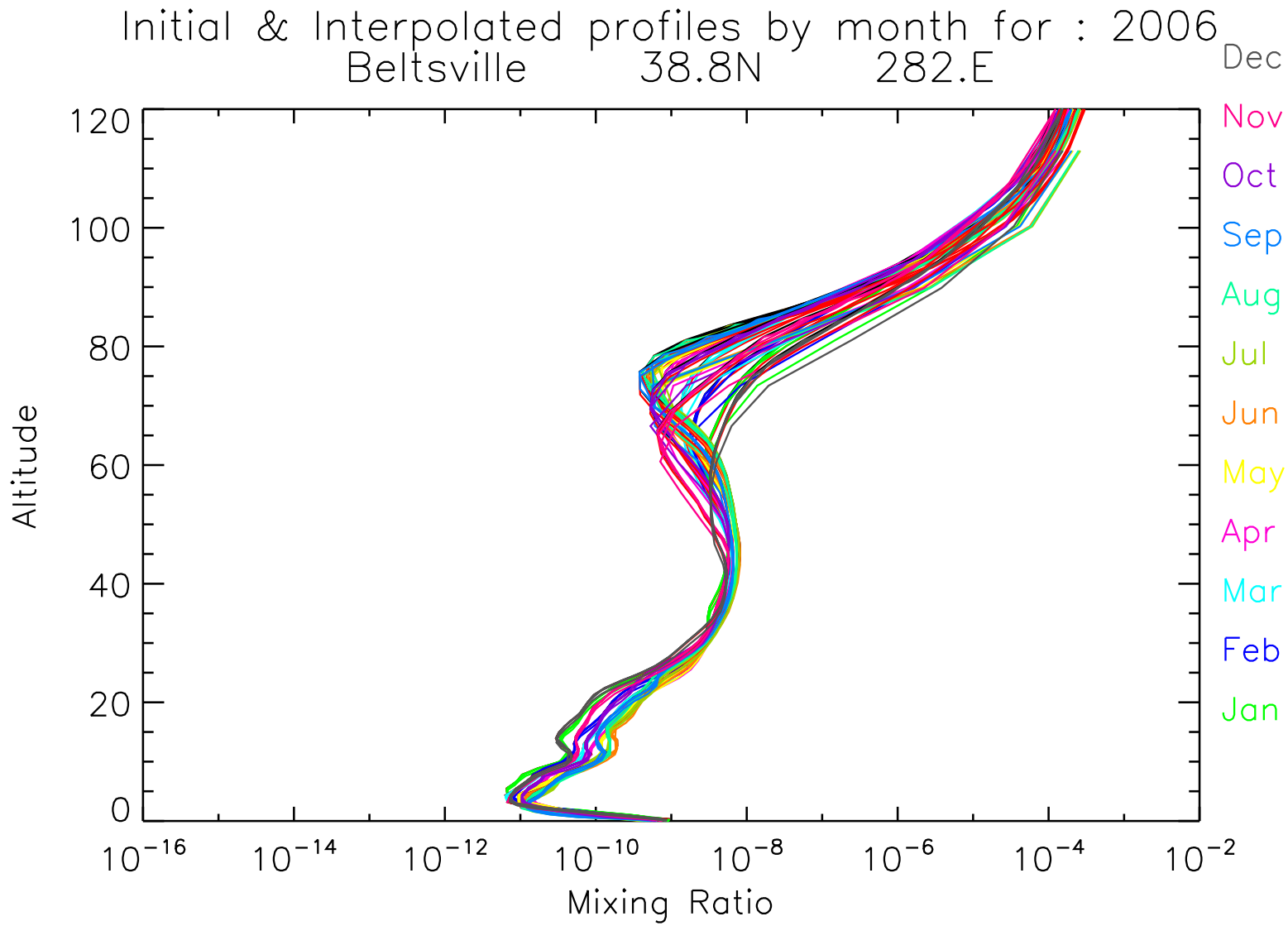
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Beltsville 38.8N 282.E
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Altitude
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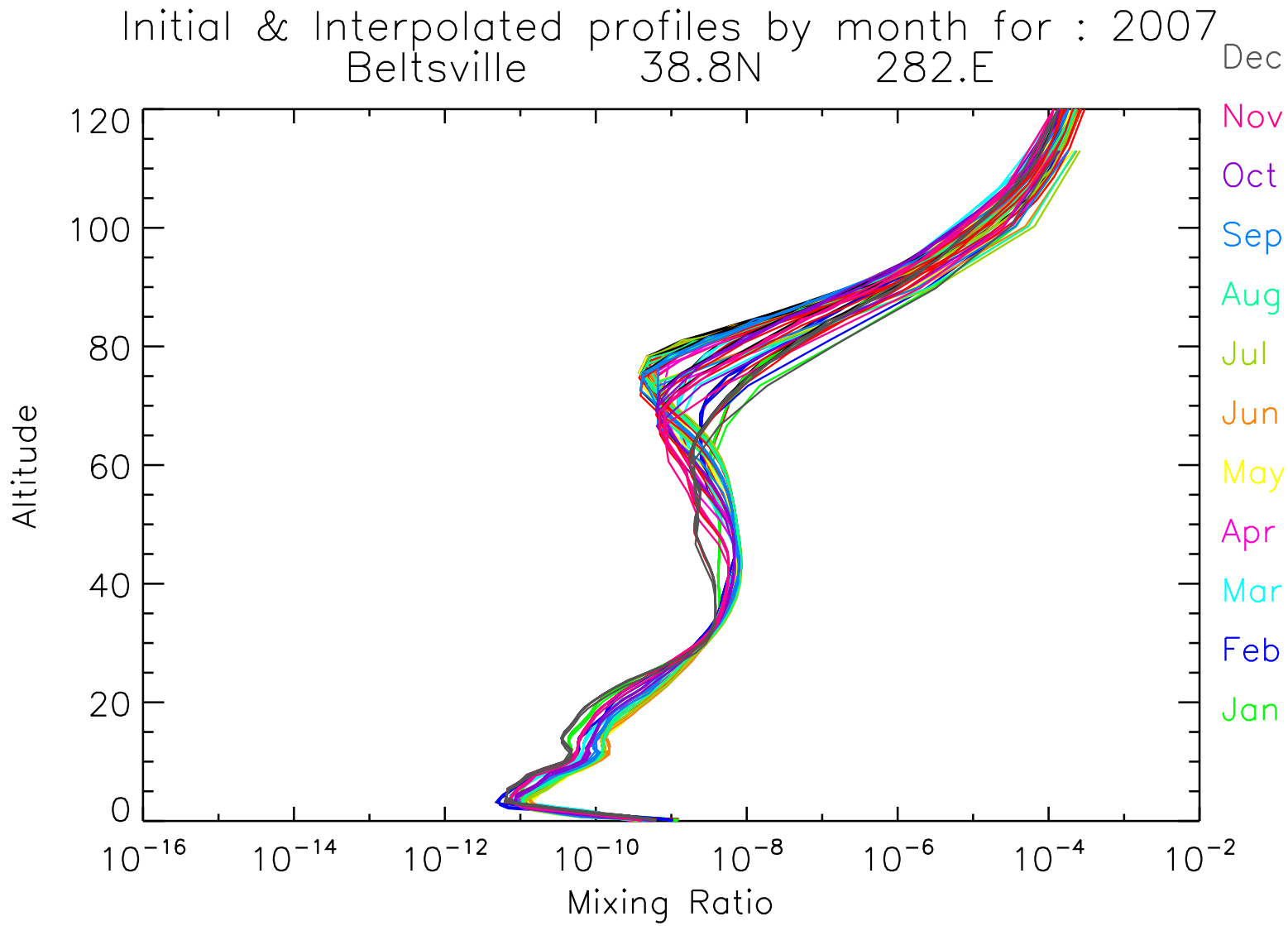
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Beltsville 38.8N 282.E
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Altitude
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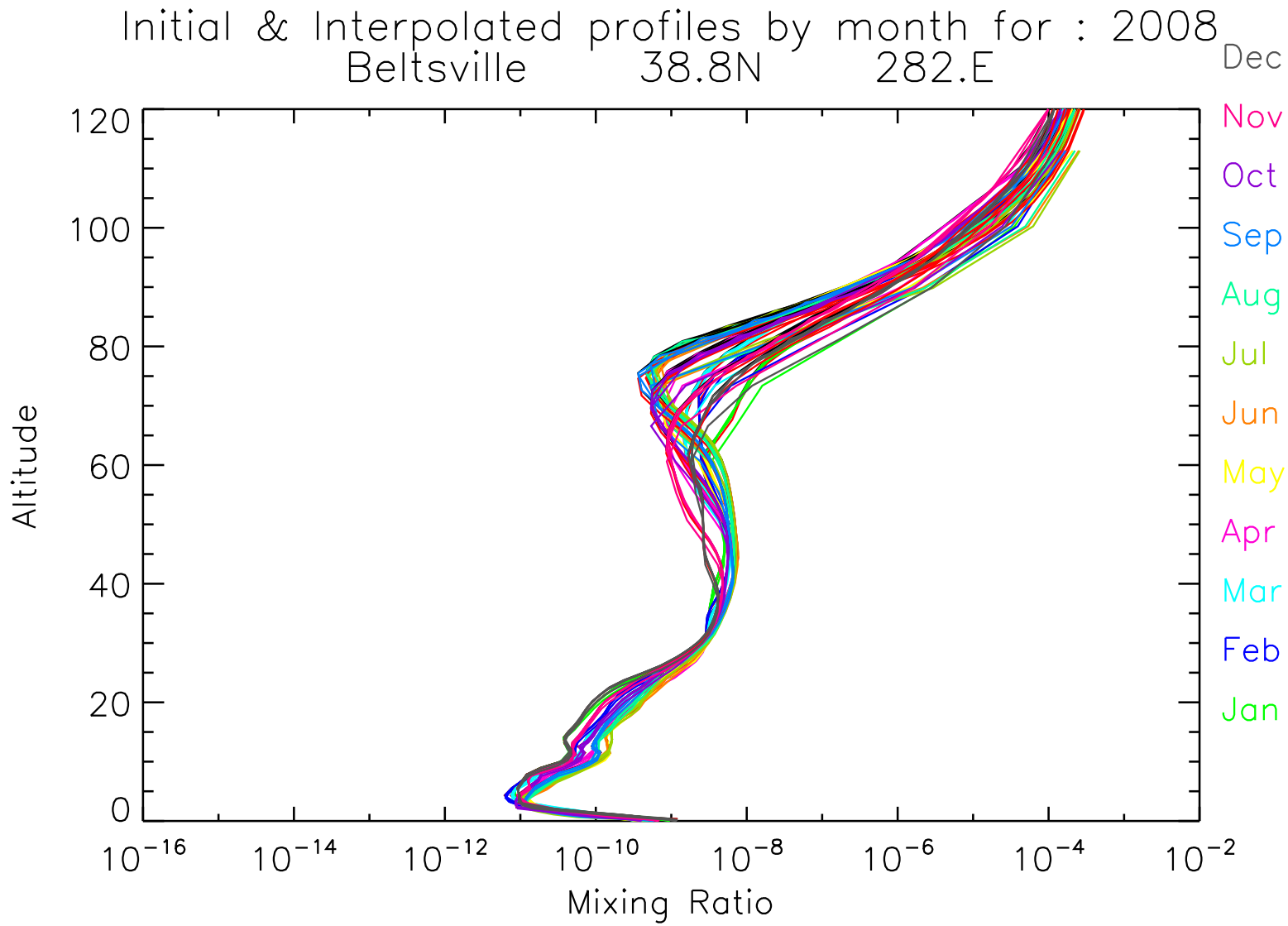
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
Beltsville 38.8N 282.E
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Altitude
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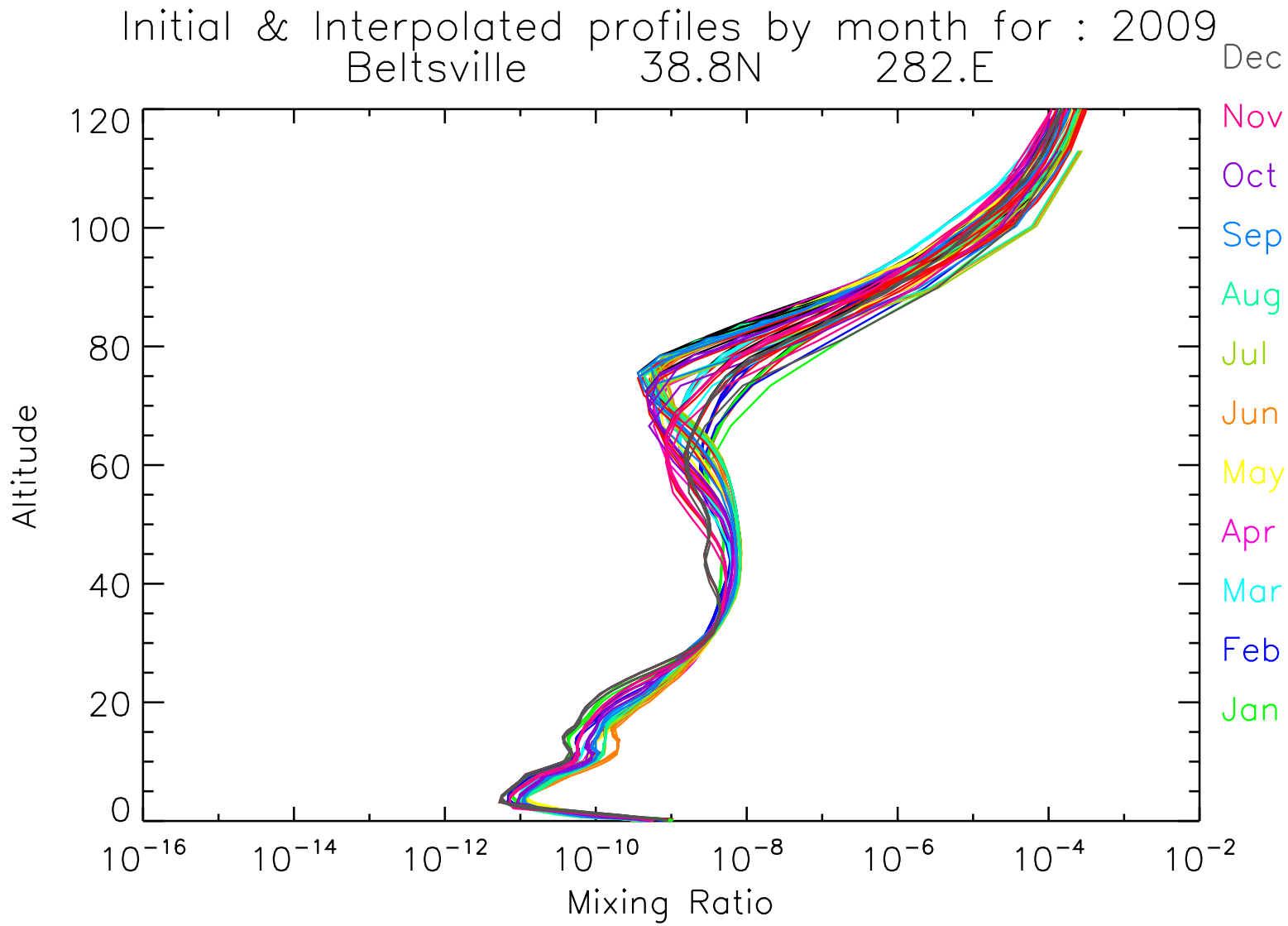
Mixing Ratio


Initial & Interpolated profiles by month for : 2009
Beltsville 38.8N 282.E
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Altitude
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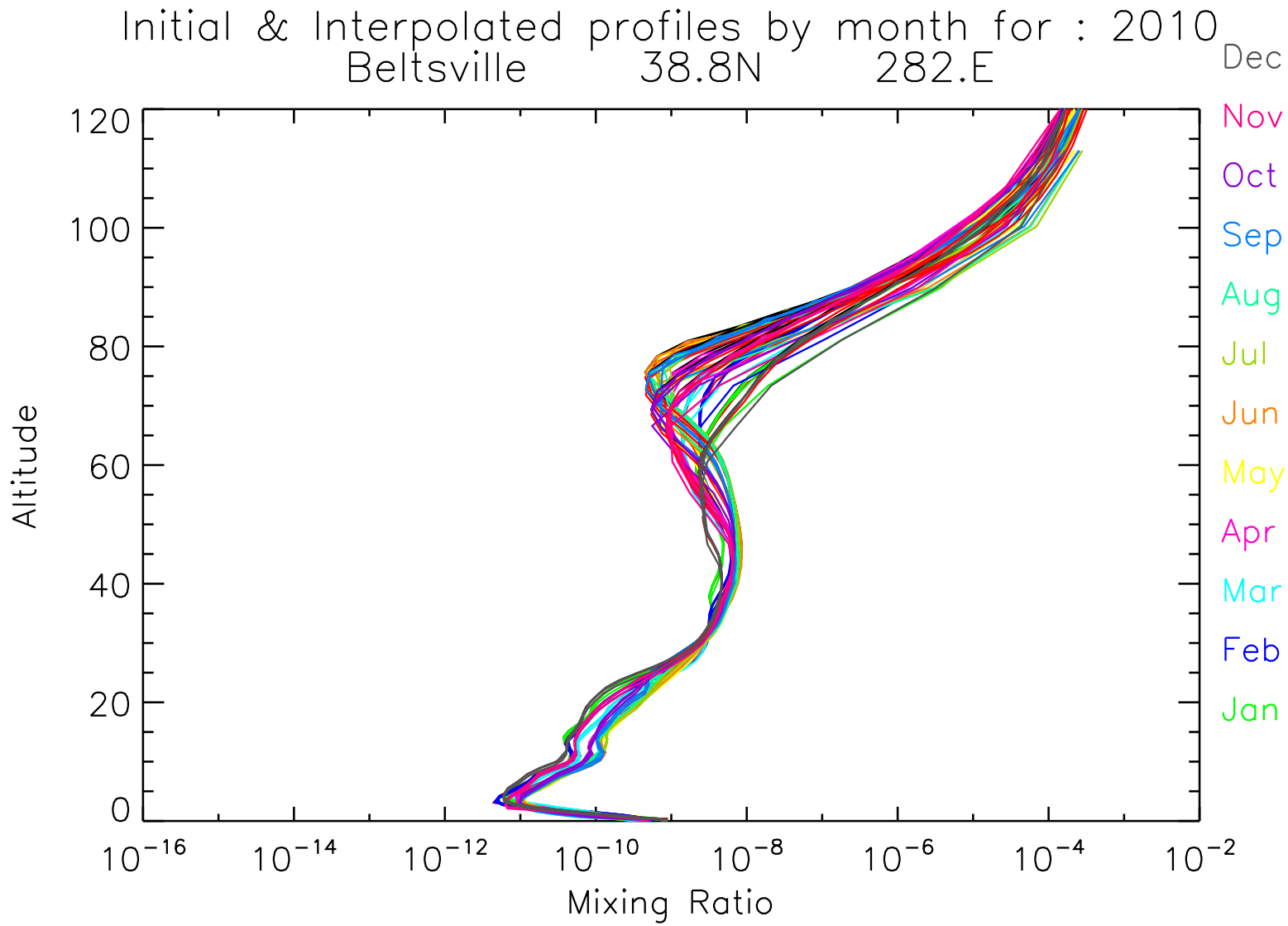
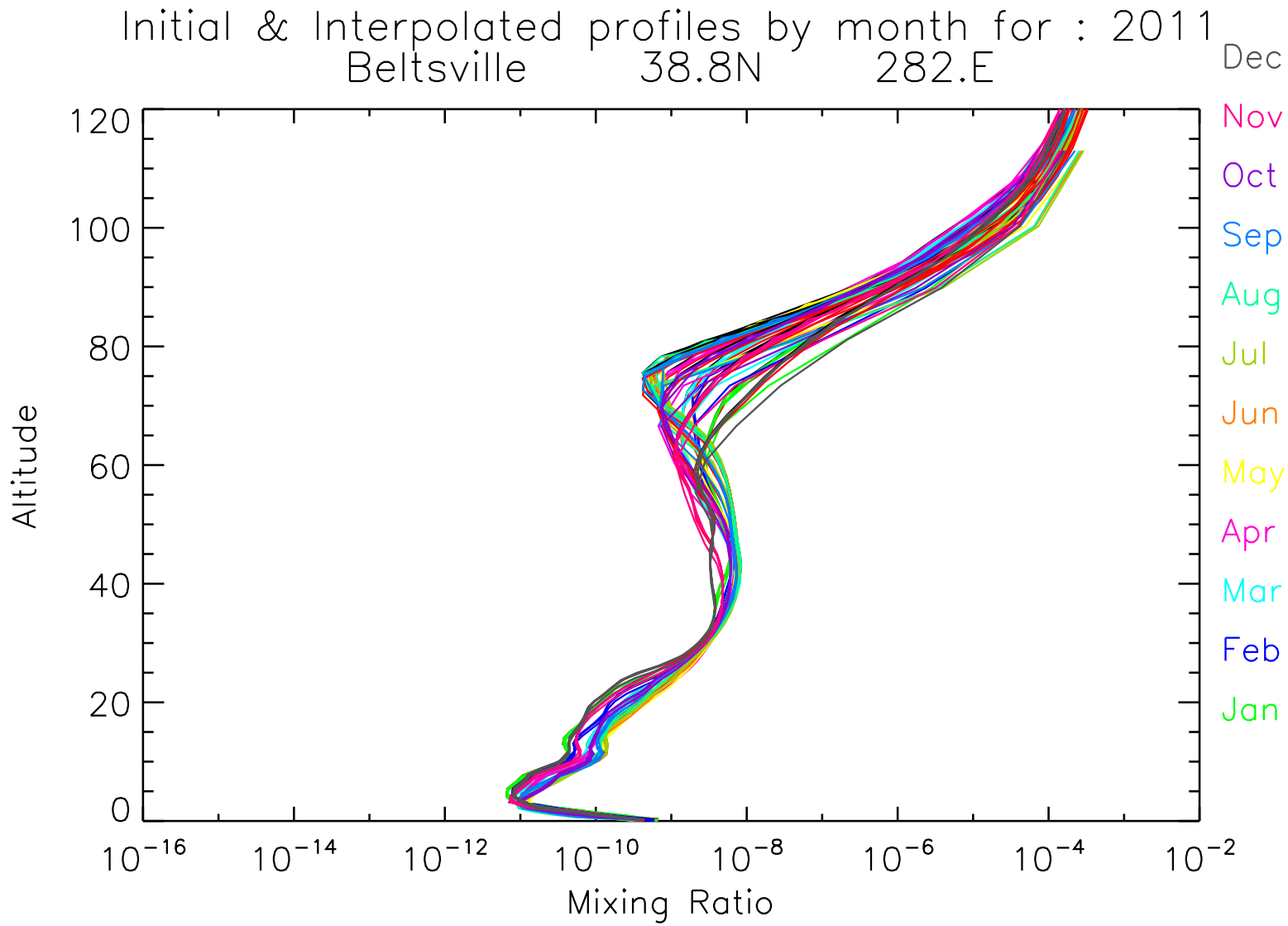
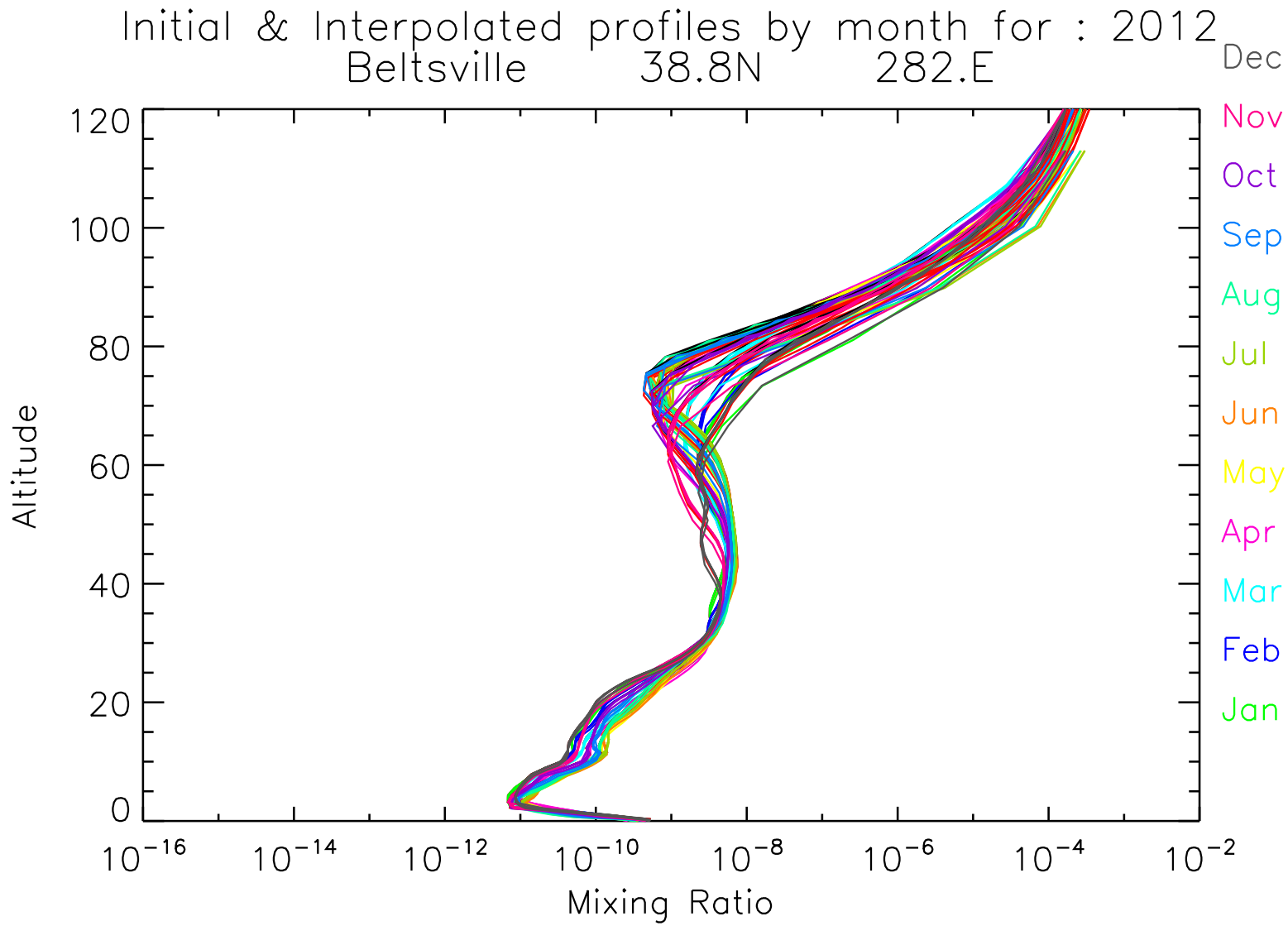
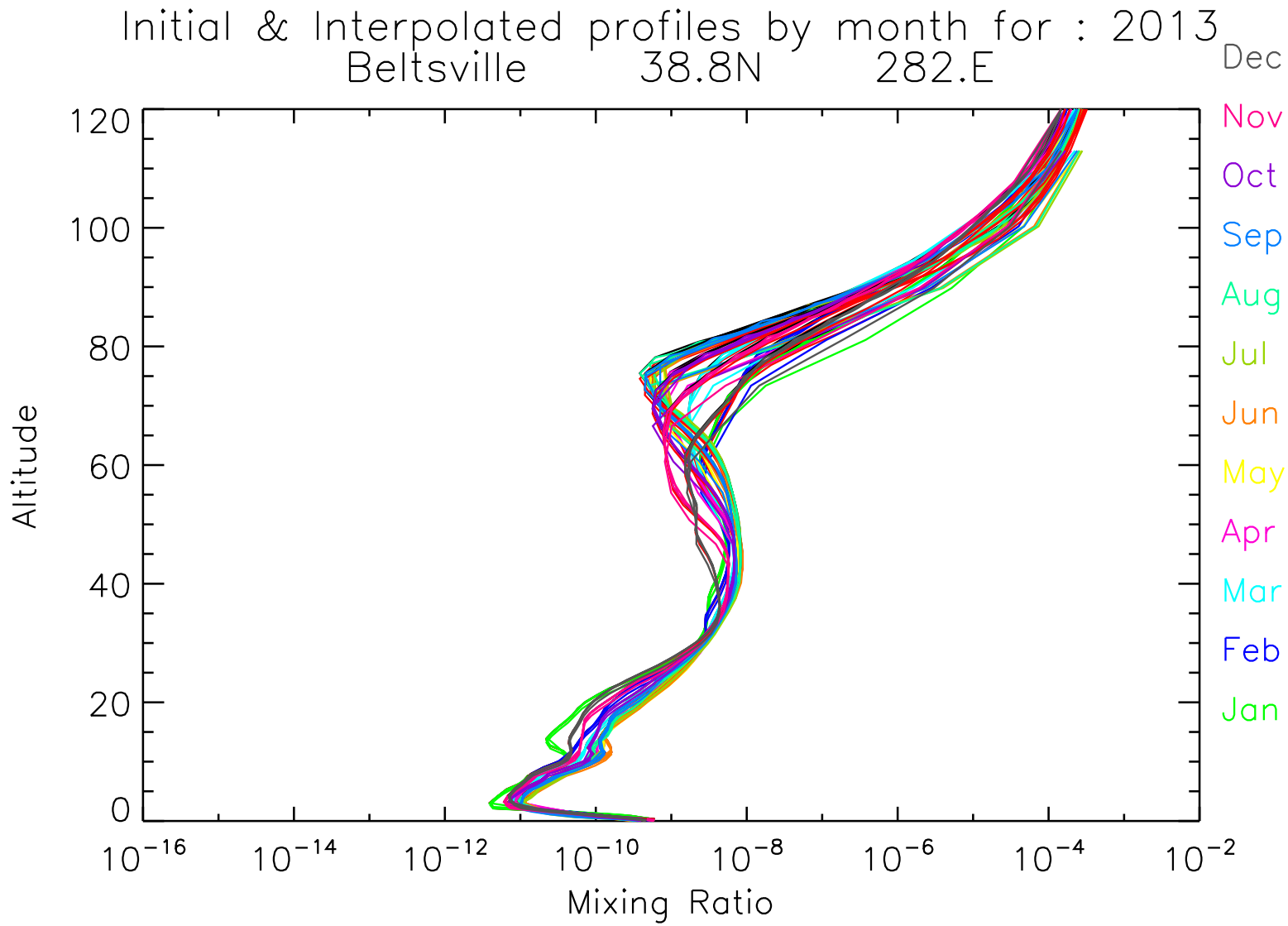
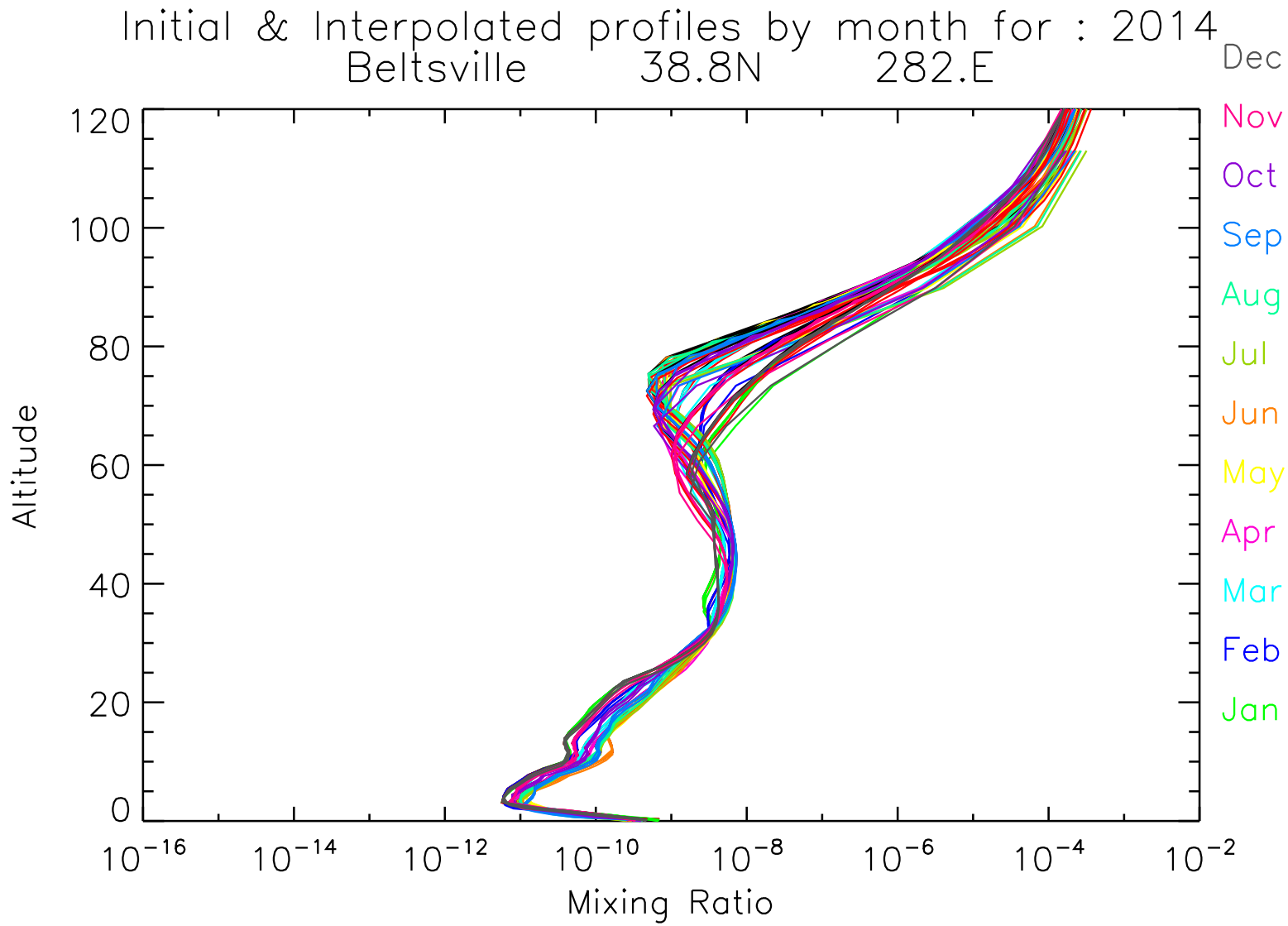
10^{-2}
Mixing Ratio

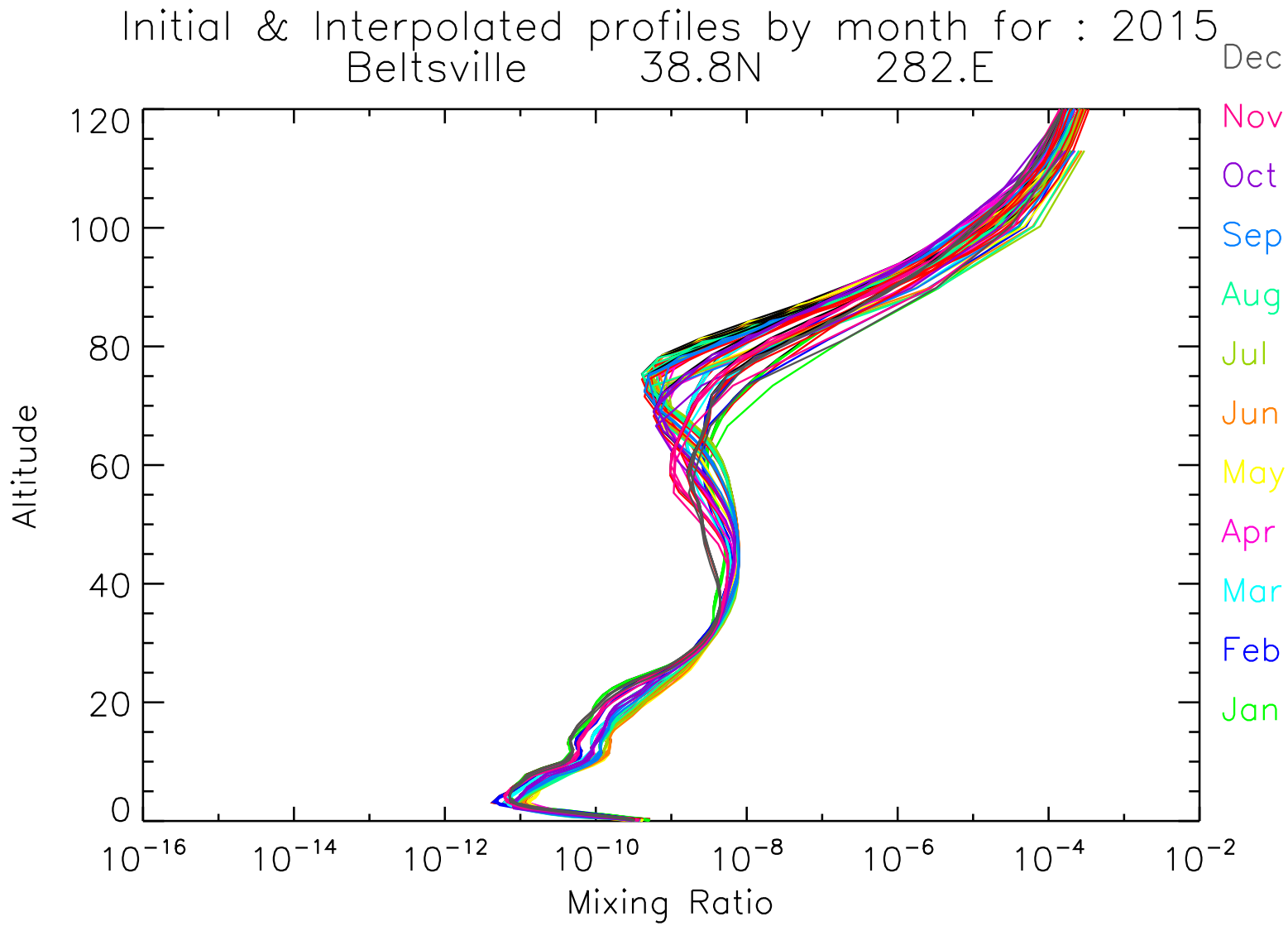

Initial & Interpolated profiles by month for : 2010
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

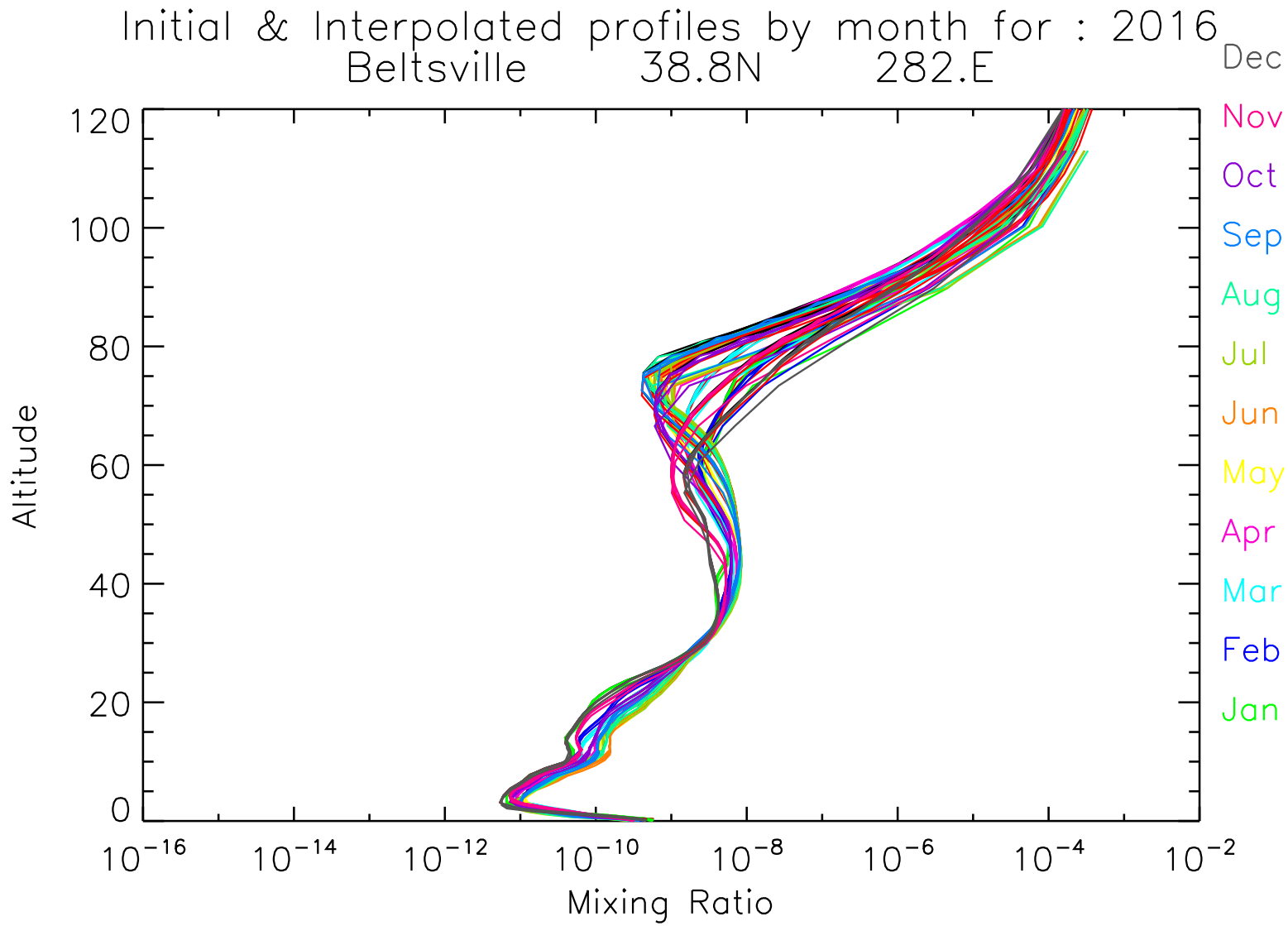

Initial & Interpolated profiles by month for : 2011
Beltsville 38.8N 282.E
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan

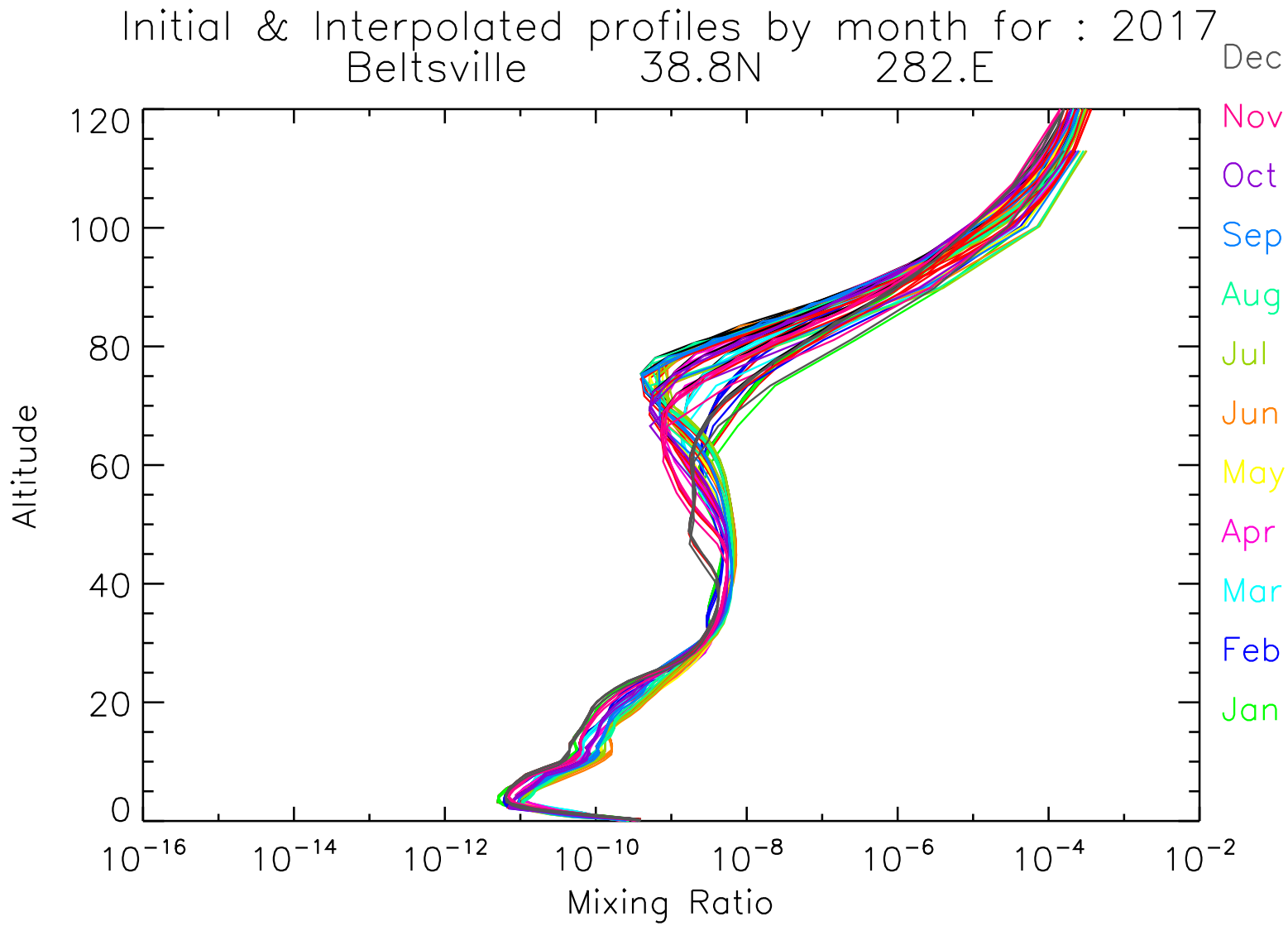

Initial & Interpolated profiles by month for : 2012
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

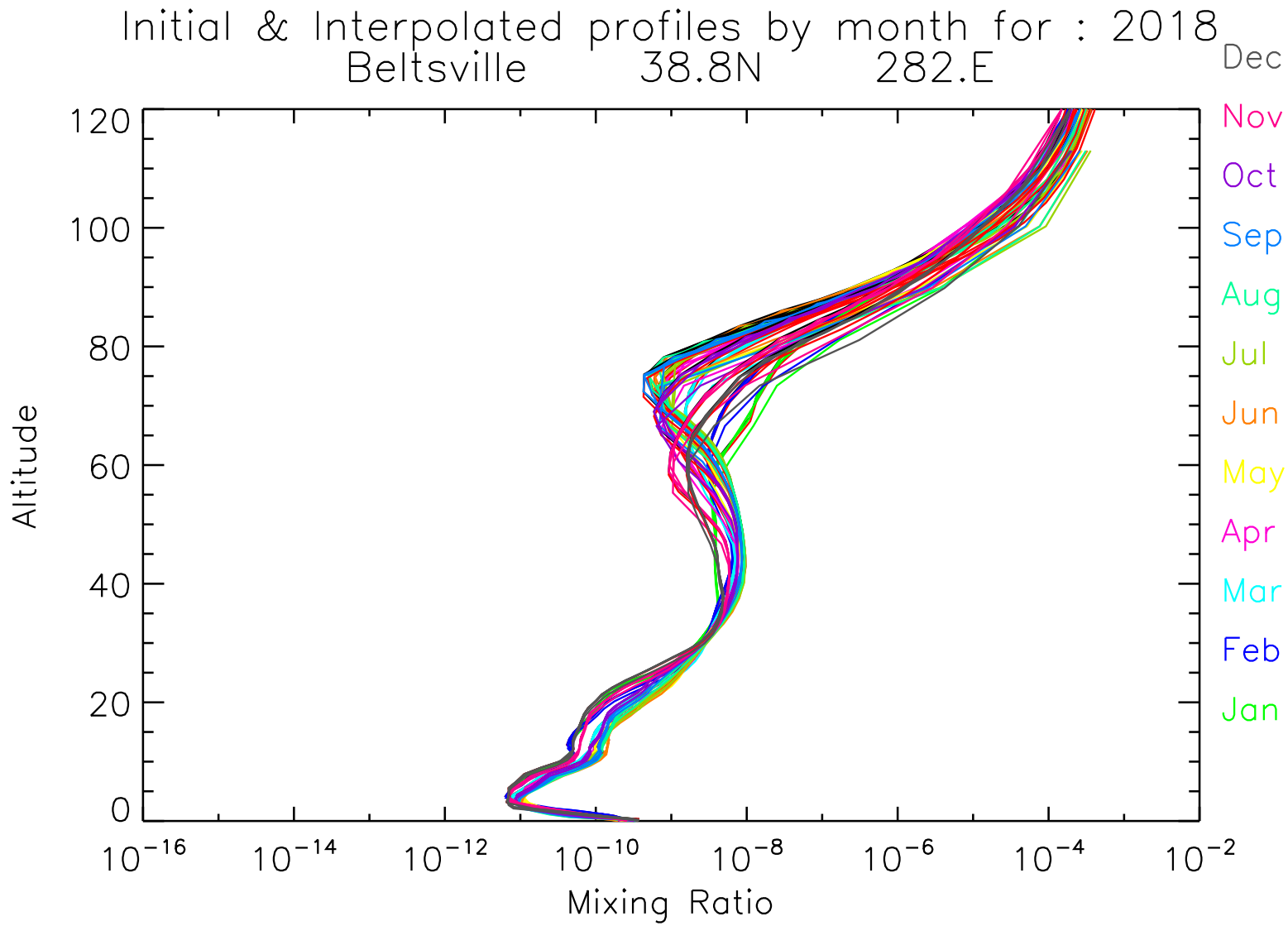

Initial & Interpolated profiles by month for : 2013
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

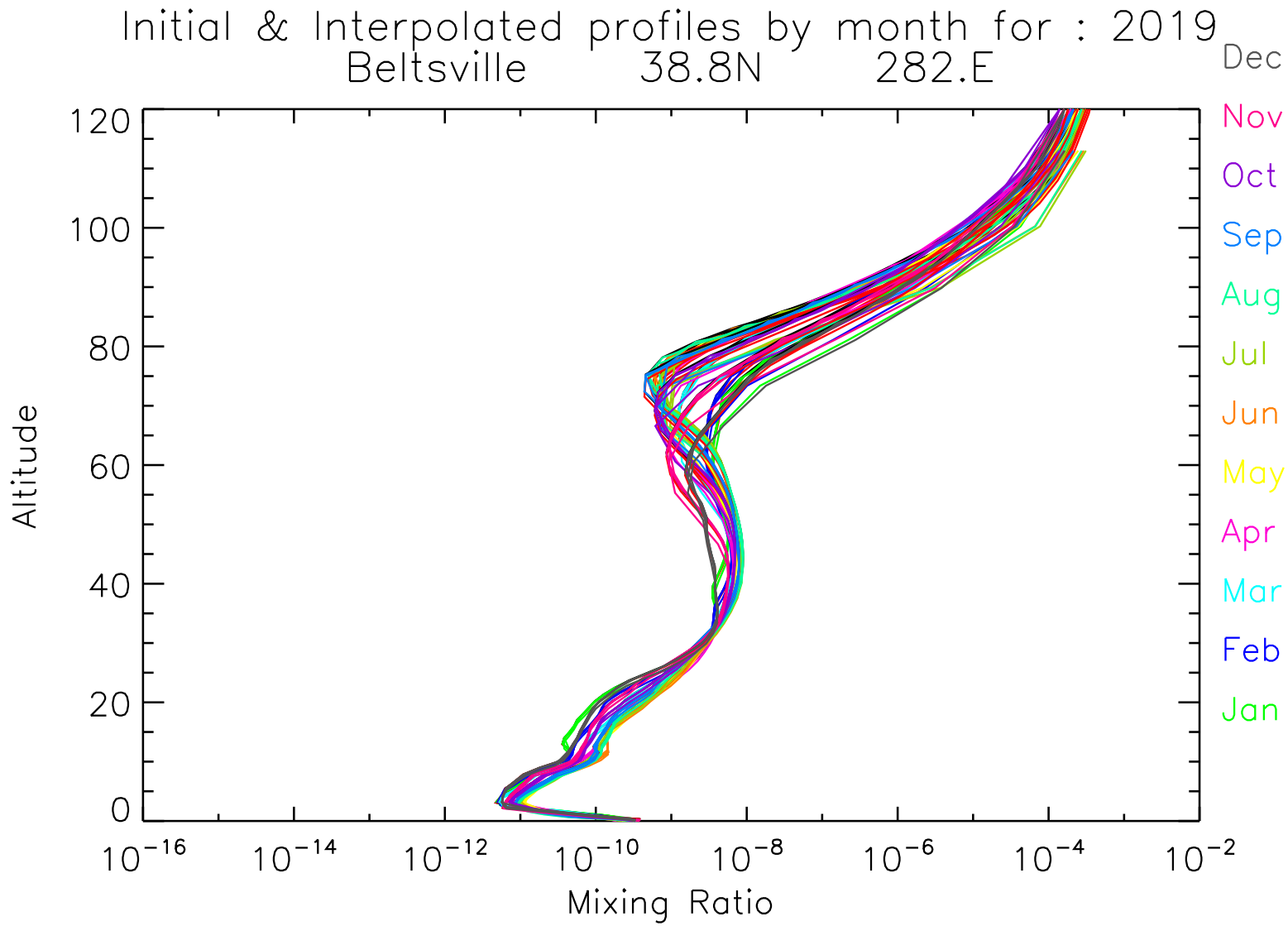

Initial & Interpolated profiles by month for : 2014
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

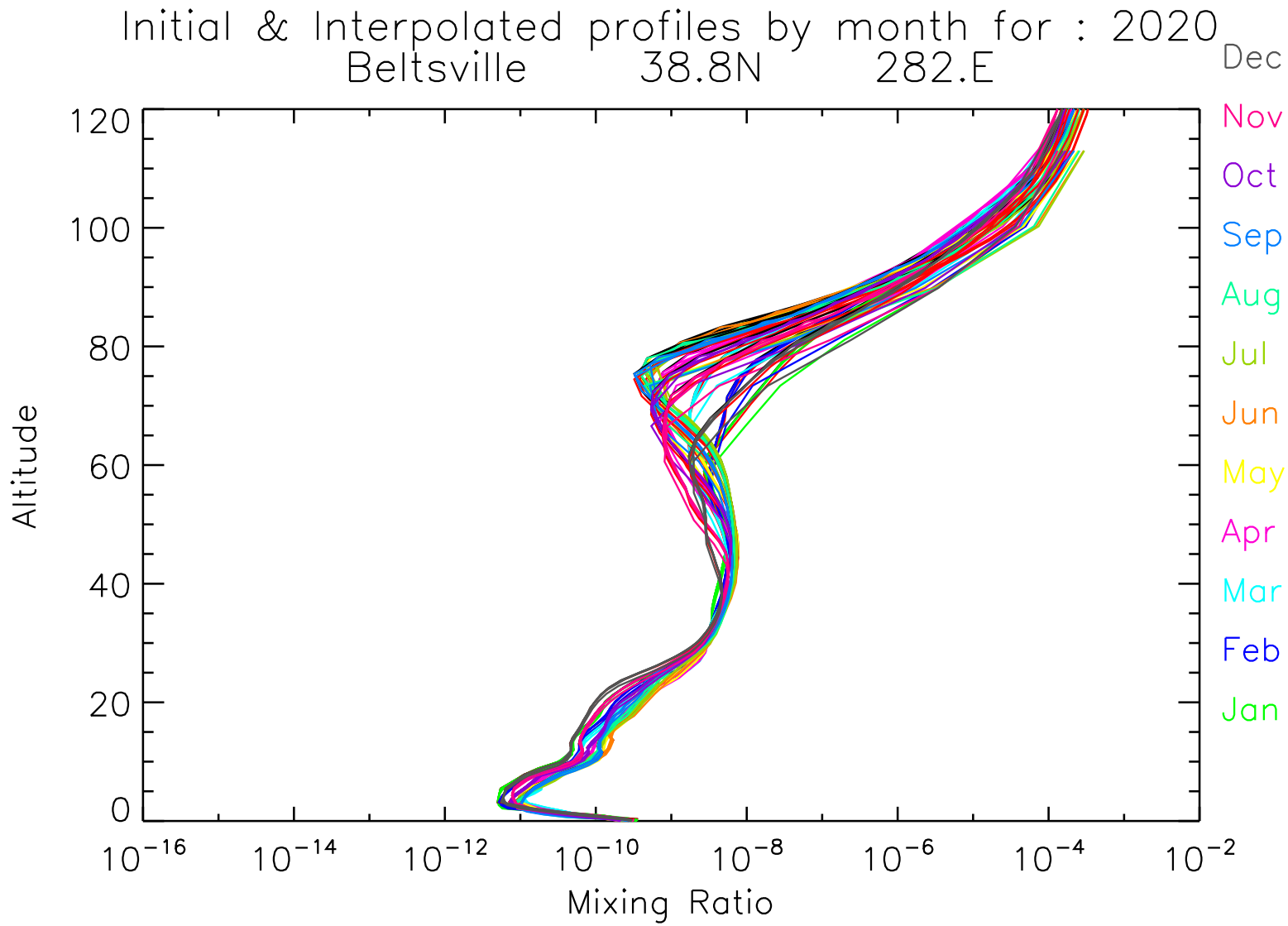

Initial & Interpolated profiles by month for : 2015
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

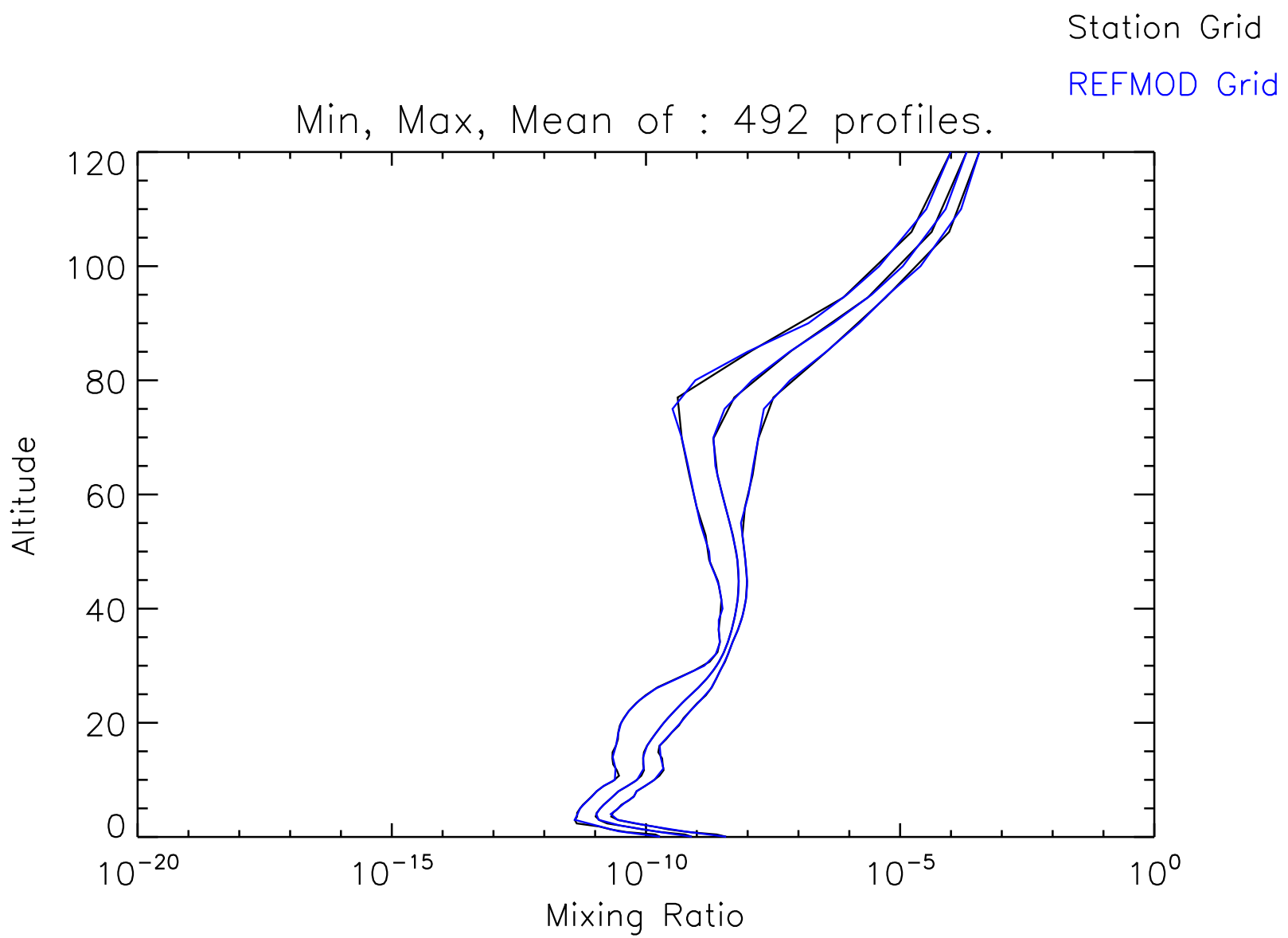

Initial & Interpolated profiles by month for : 2016
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

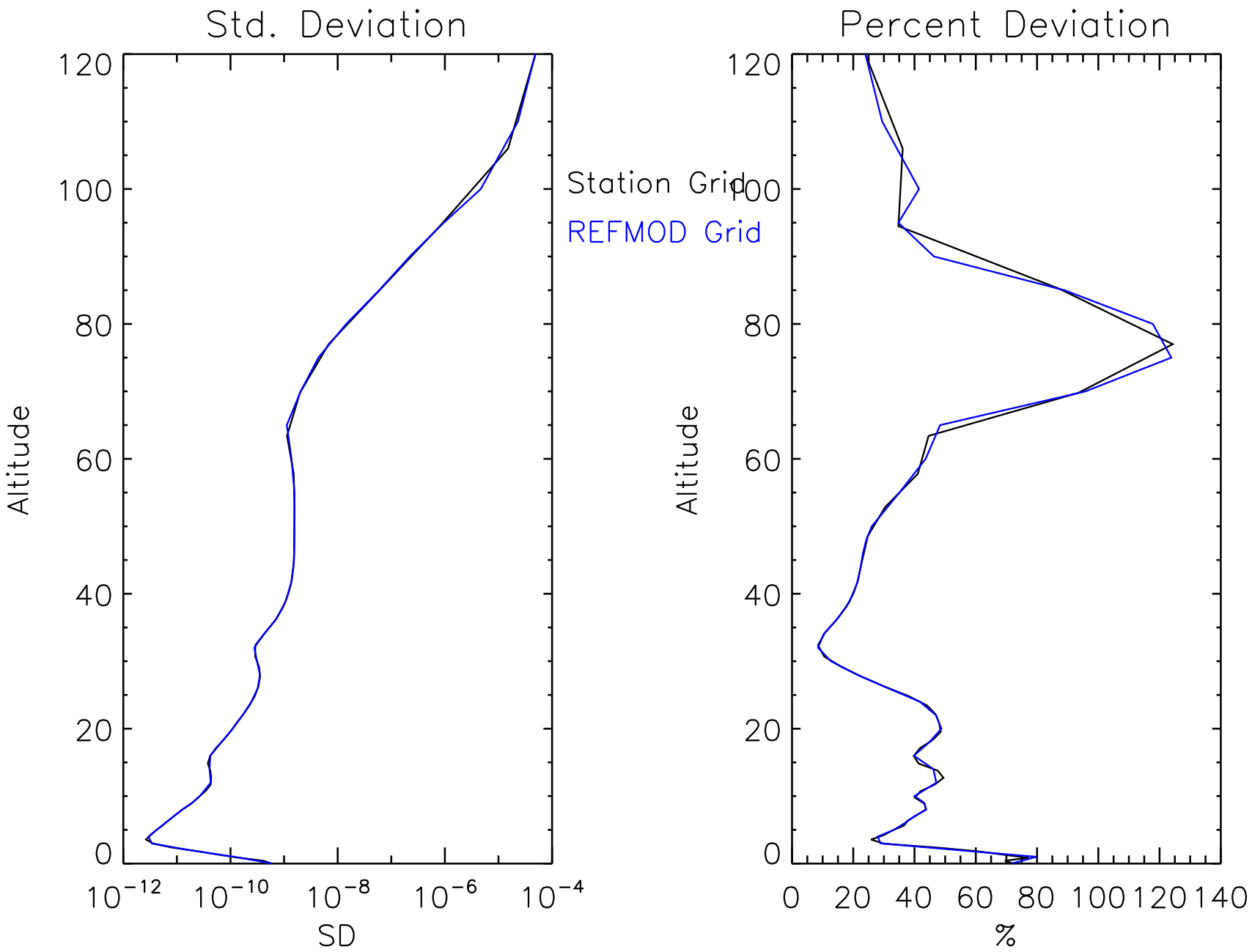

Initial & Interpolated profiles by month for : 2017
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

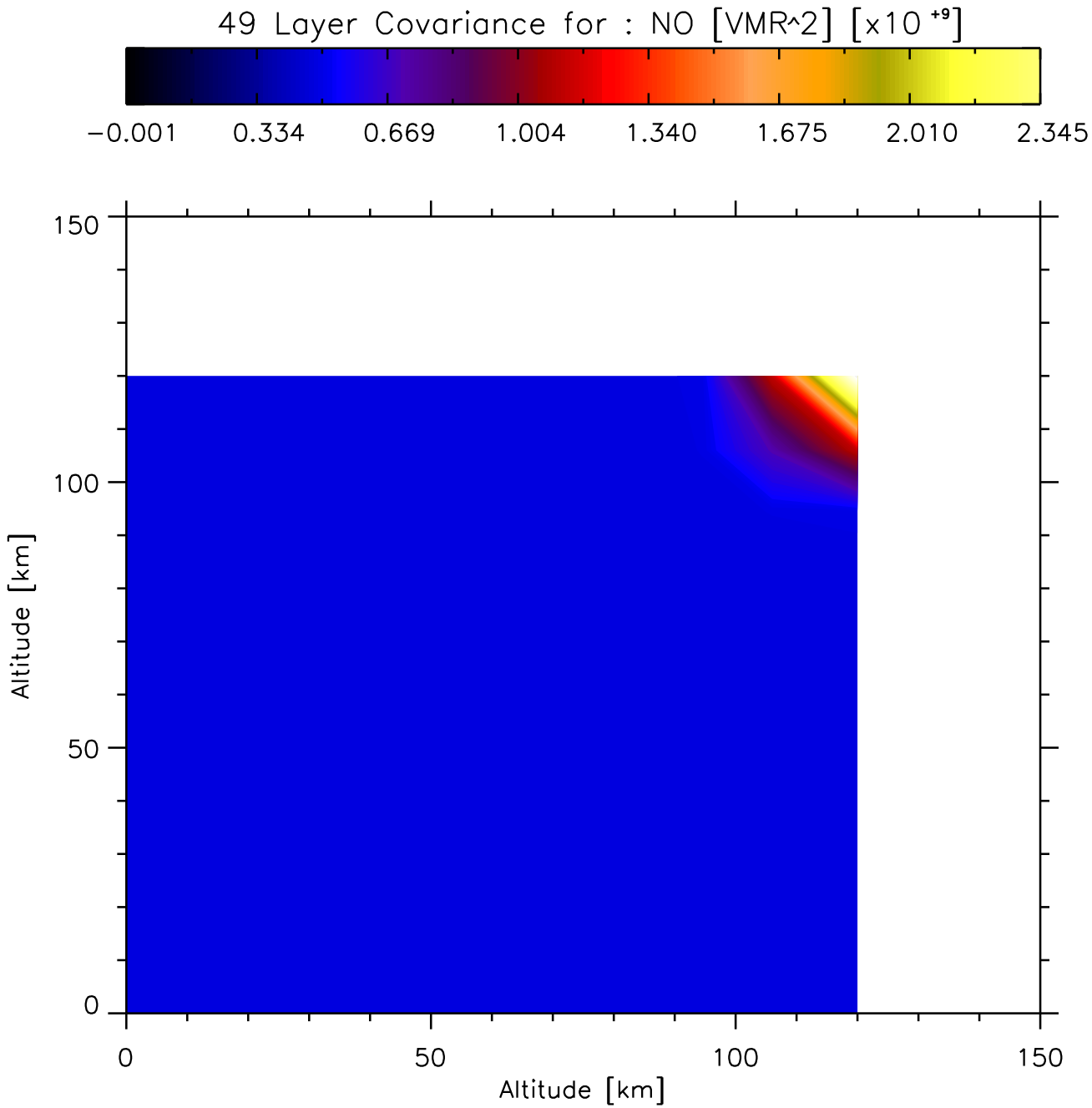

Initial & Interpolated profiles by month for : 2018
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2019
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

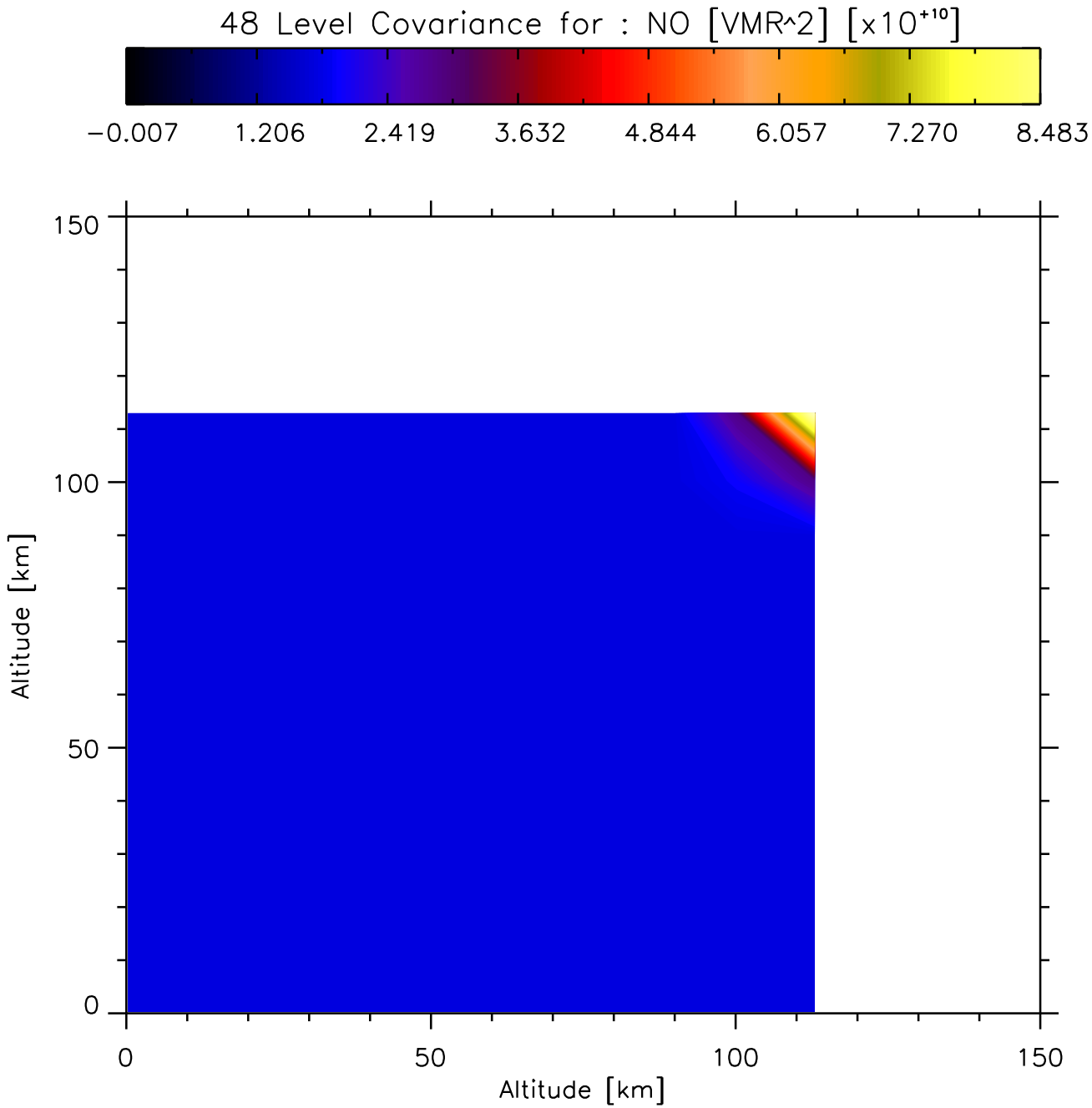

Initial & Interpolated profiles by month for : 2020
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
120
100
80
60
40
20
0
Altitude
10^{-20}
10^{-15}
10^{-10}
10^{-5}
10^{0}
Mixing Ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude
Altitude
120
100
80
60
40
20
0
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
SD
0
20
40
60
80
100
120
140
%


49 Layer Covariance for : NO [VMR^2] [x10 +9]
−0.001
0.334
0.669
1.004
1.340
1.675
2.010
2.345
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

49 Layer Covariance for : NO [VMR^2] [x10^-9]
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Y Altitude
0
50
100
150
X Altitude
0
50
100
150


48 Level Covariance for : NO [VMR^2] [x10^+10]
−0.007
1.206
2.419
3.632
4.844
6.057
7.270
8.483
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

48 Level Covariance for : NO [VMR^2] [x10^-19]
X Altitude
Y Altitude
0
50
100
150
0
20
40
60
80
100
120