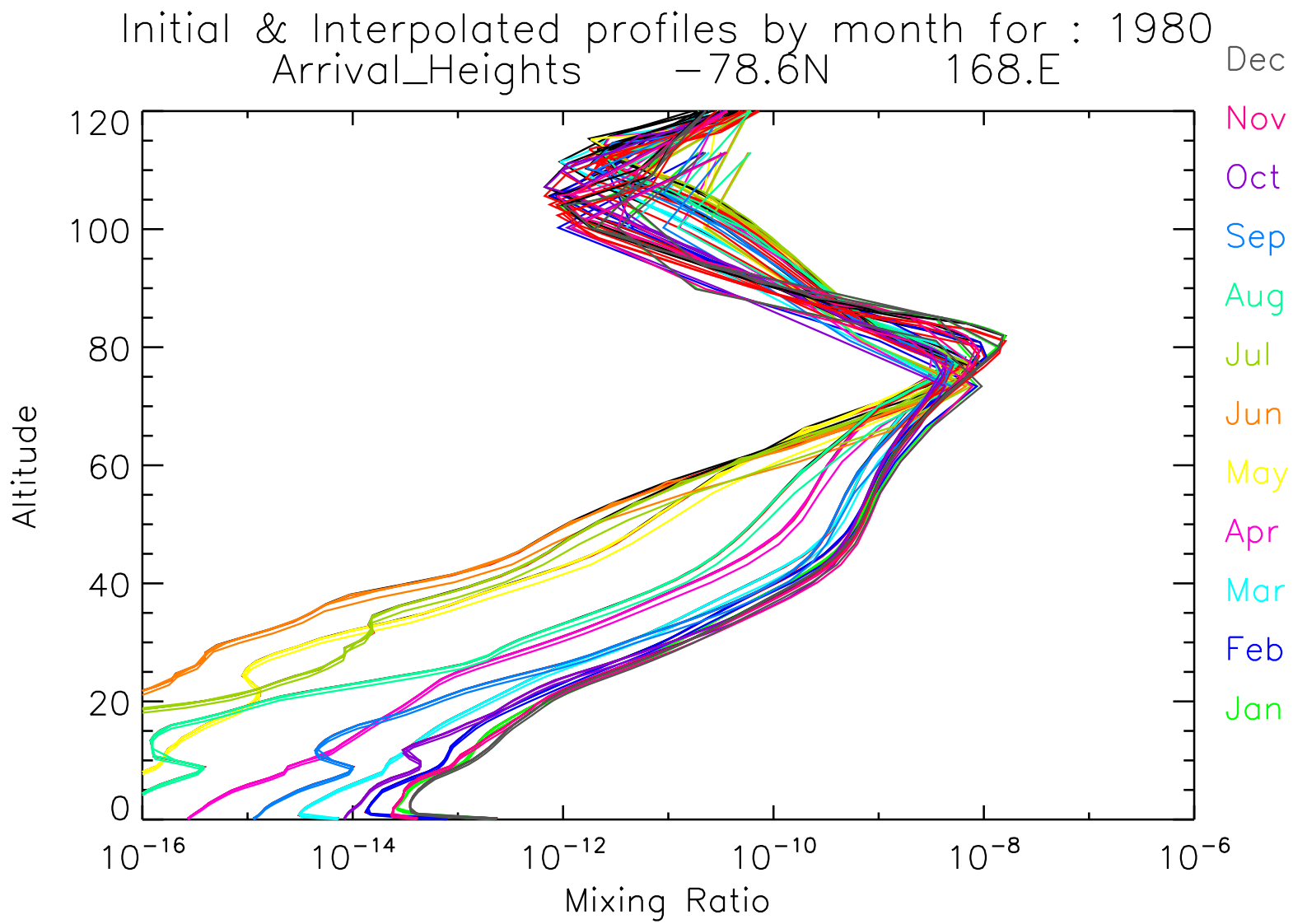
Initial & Interpolated profiles by month for : 1980
Arrival_Heights −78.6N 168.E
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
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10^{-6}
Mixing Ratio
Dec
Nov
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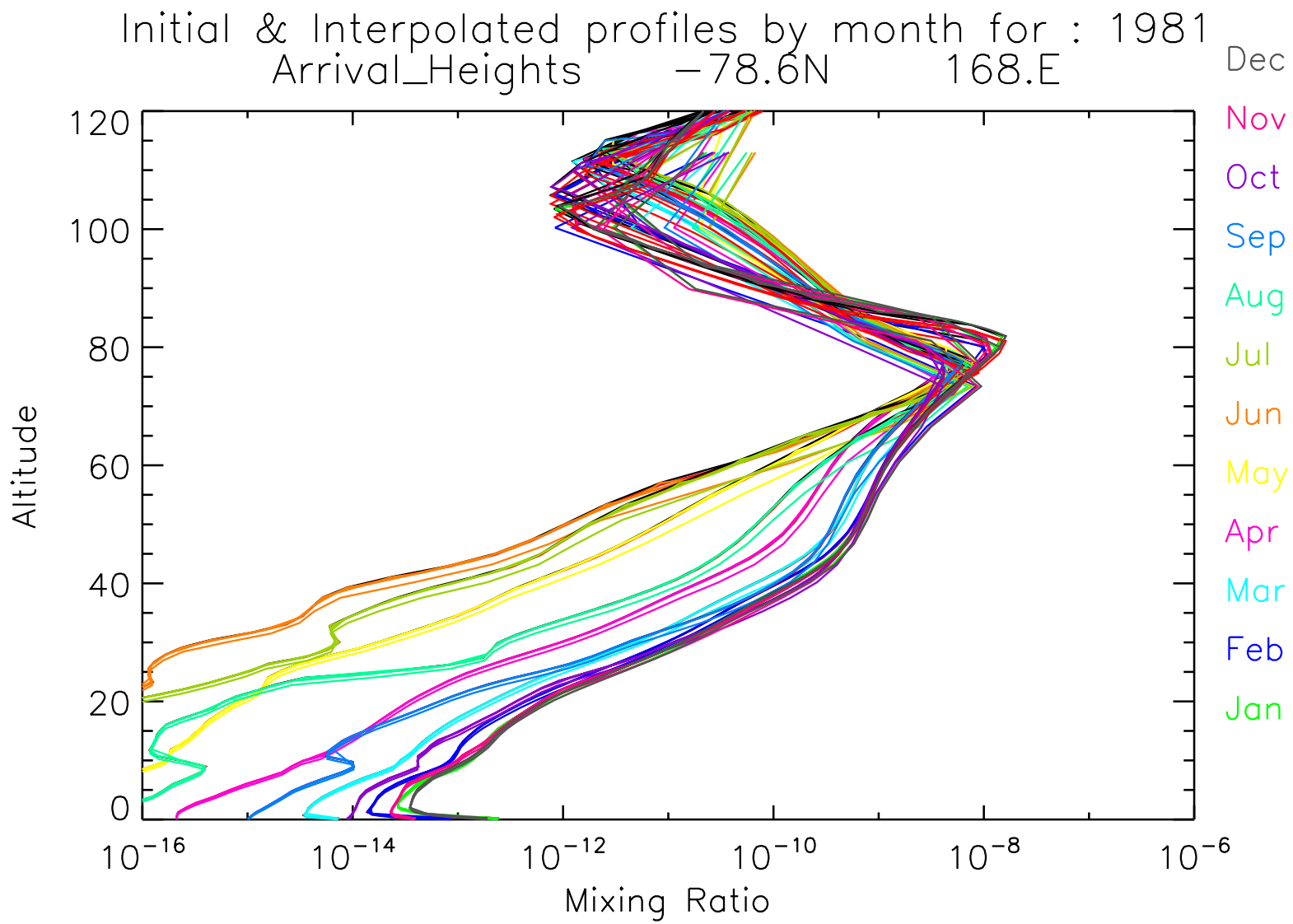
Feb
Jan


Initial & Interpolated profiles by month for : 1981
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
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40
20
0
Altitude
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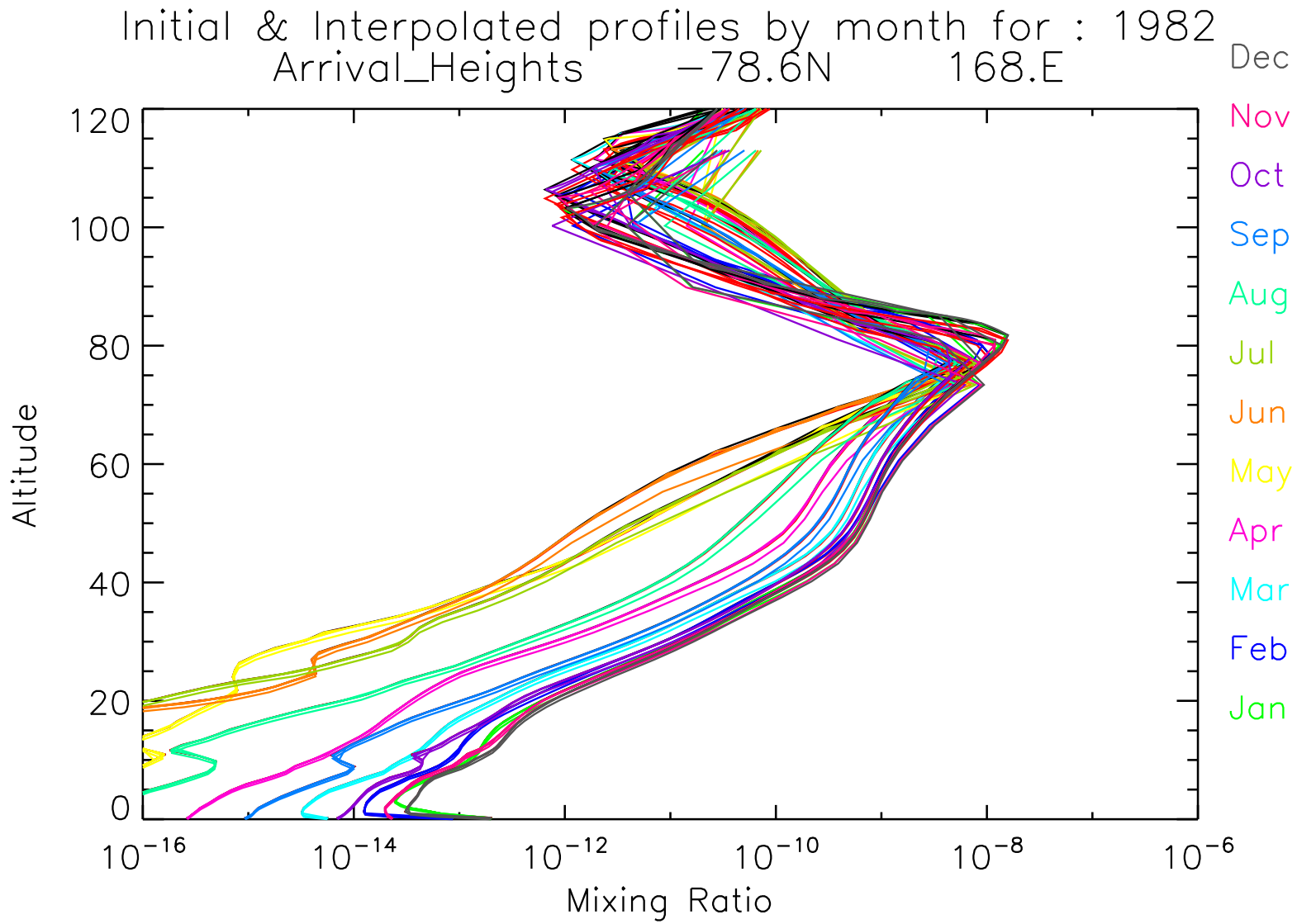
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
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Jun
May
Apr
Mar
Feb
Jan
120
100
80
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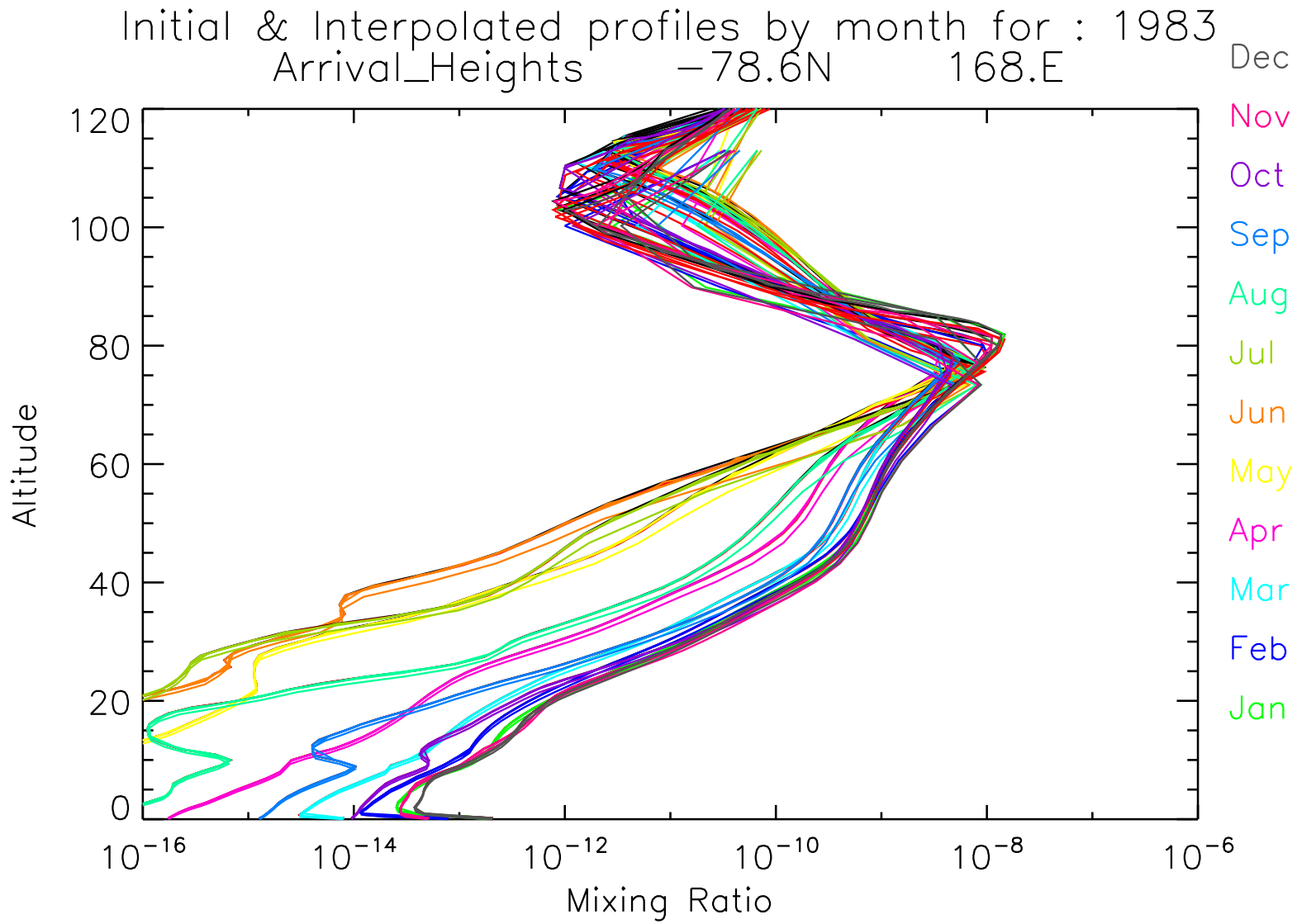
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Arrival_Heights −78.6N 168.E
Dec
Nov
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May
Apr
Mar
Feb
Jan
120
100
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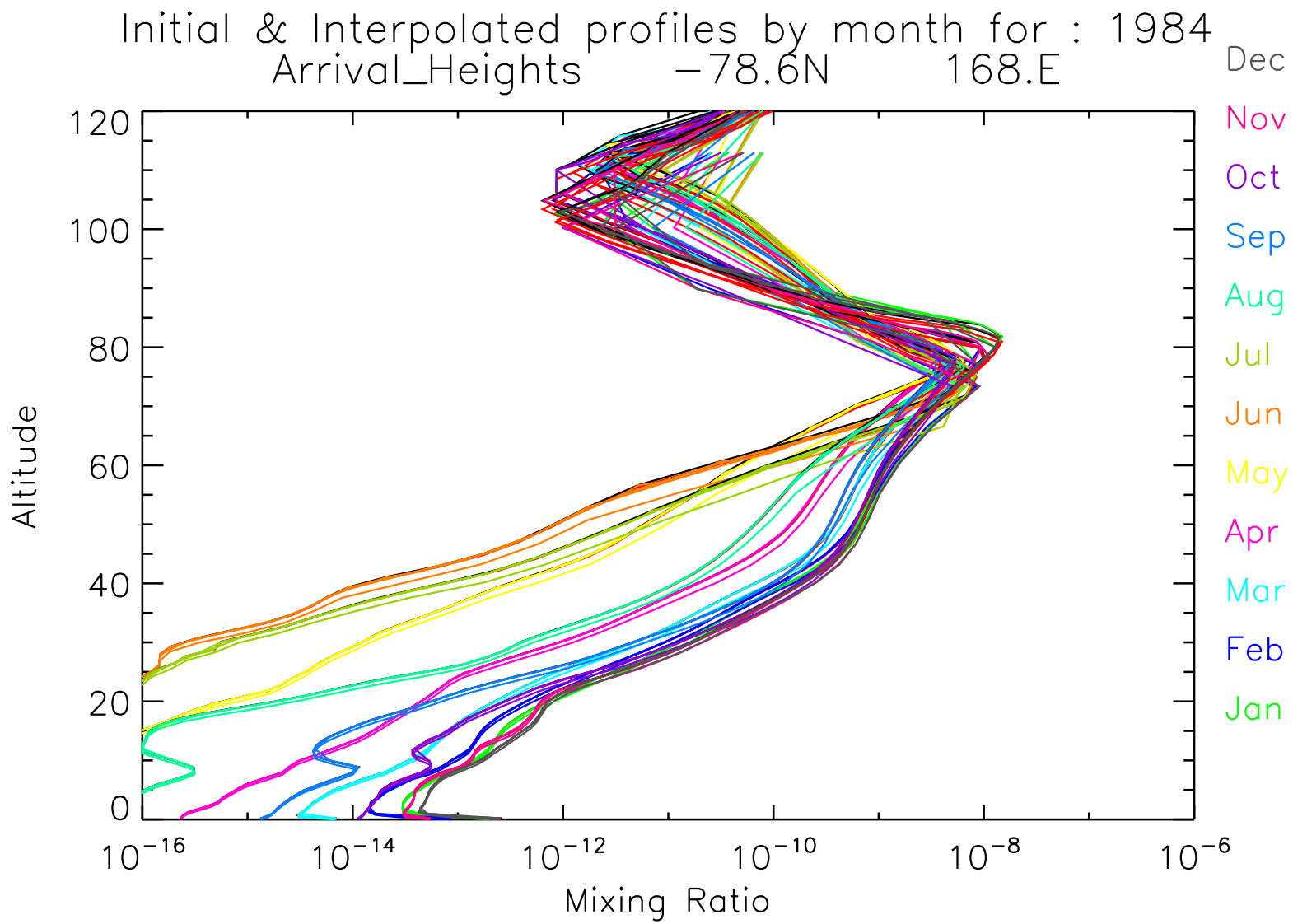
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
Arrival_Heights −78.6N 168.E
Altitude
120
100
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40
20
0
10^{-16}
10^{-14}
10^{-12}
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10^{-8}
10^{-6}
Mixing Ratio
Dec
Nov
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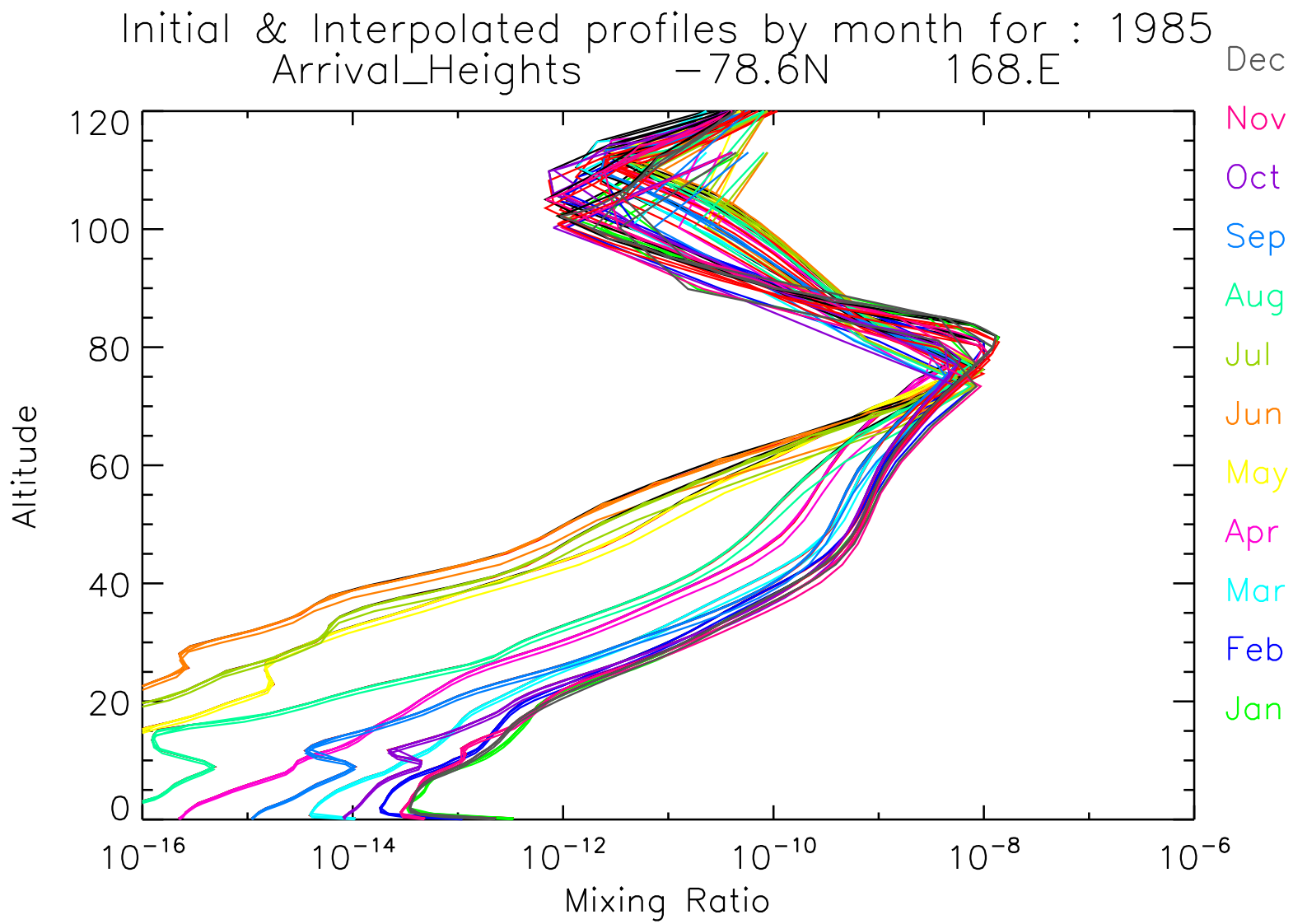
Feb
Jan


Initial & Interpolated profiles by month for : 1985
Arrival_Heights −78.6N 168.E
Dec
Nov
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Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
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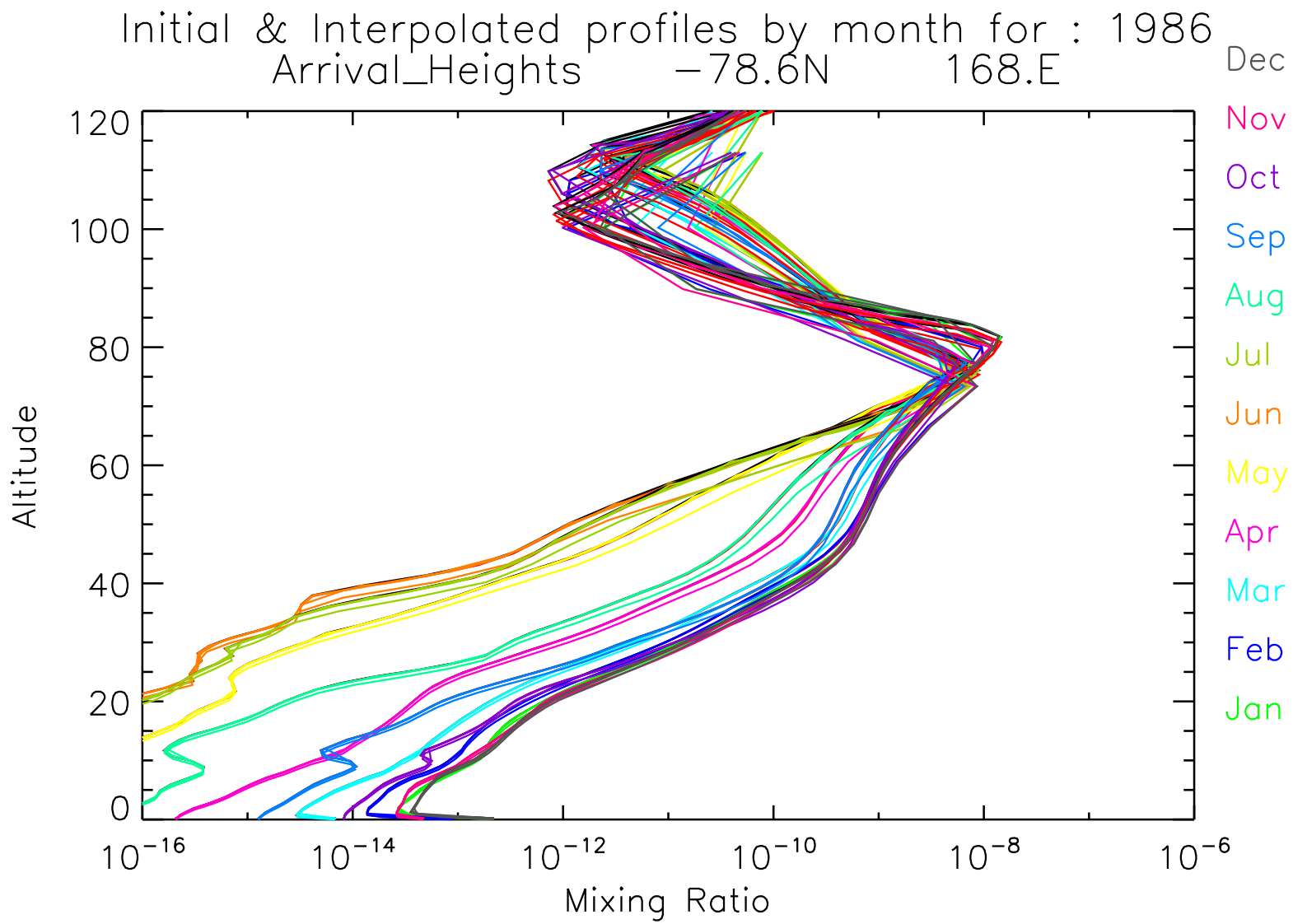
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
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May
Apr
Mar
Feb
Jan
120
100
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40
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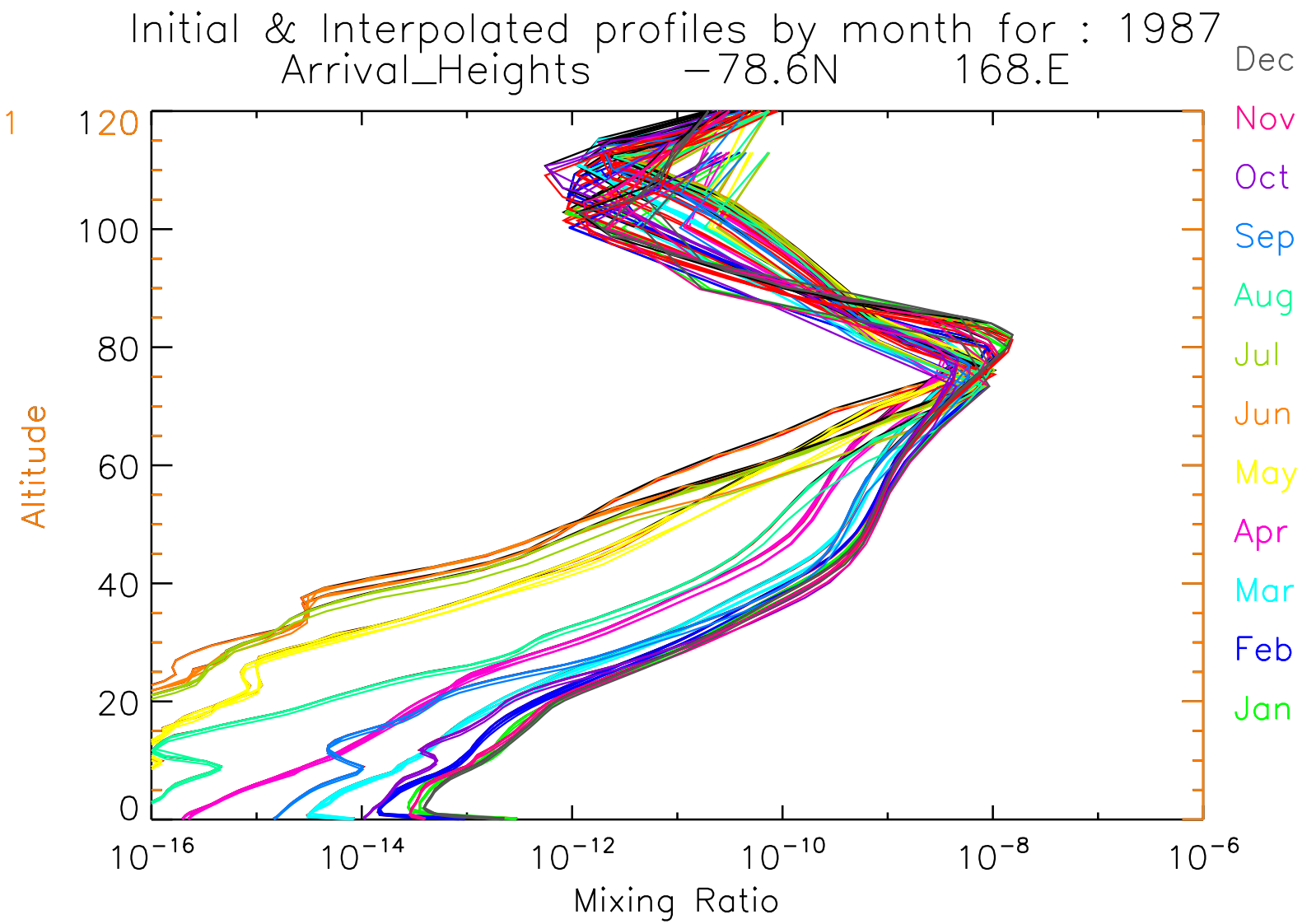
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
Arrival_Heights −78.6N 168.E
Dec
Nov
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May
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Feb
Jan
1
120
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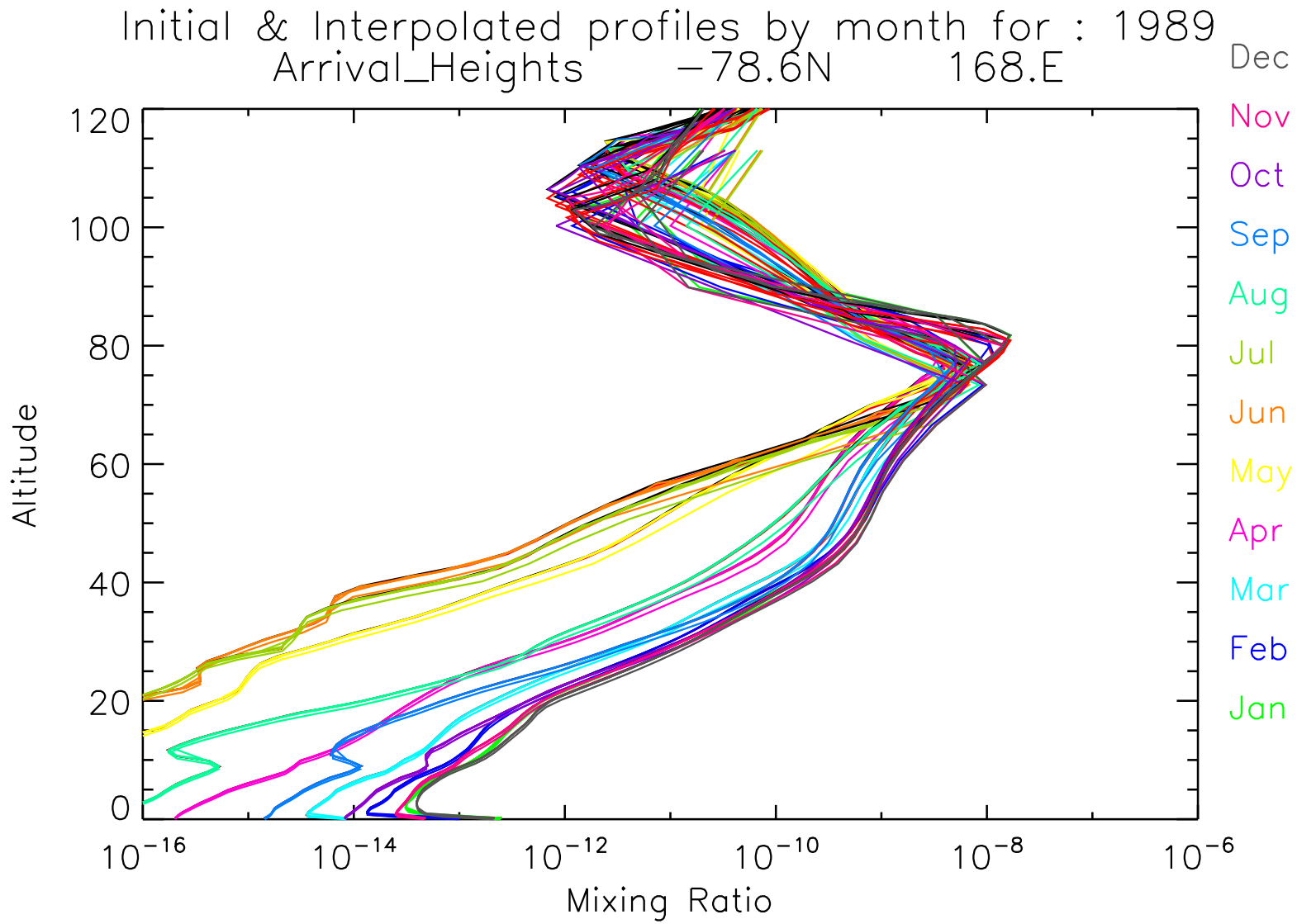
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
Arrival_Heights −78.6N 168.E
Altitude
120
100
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0
10^{-16}
10^{-14}
10^{-12}
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10^{-6}
Mixing Ratio
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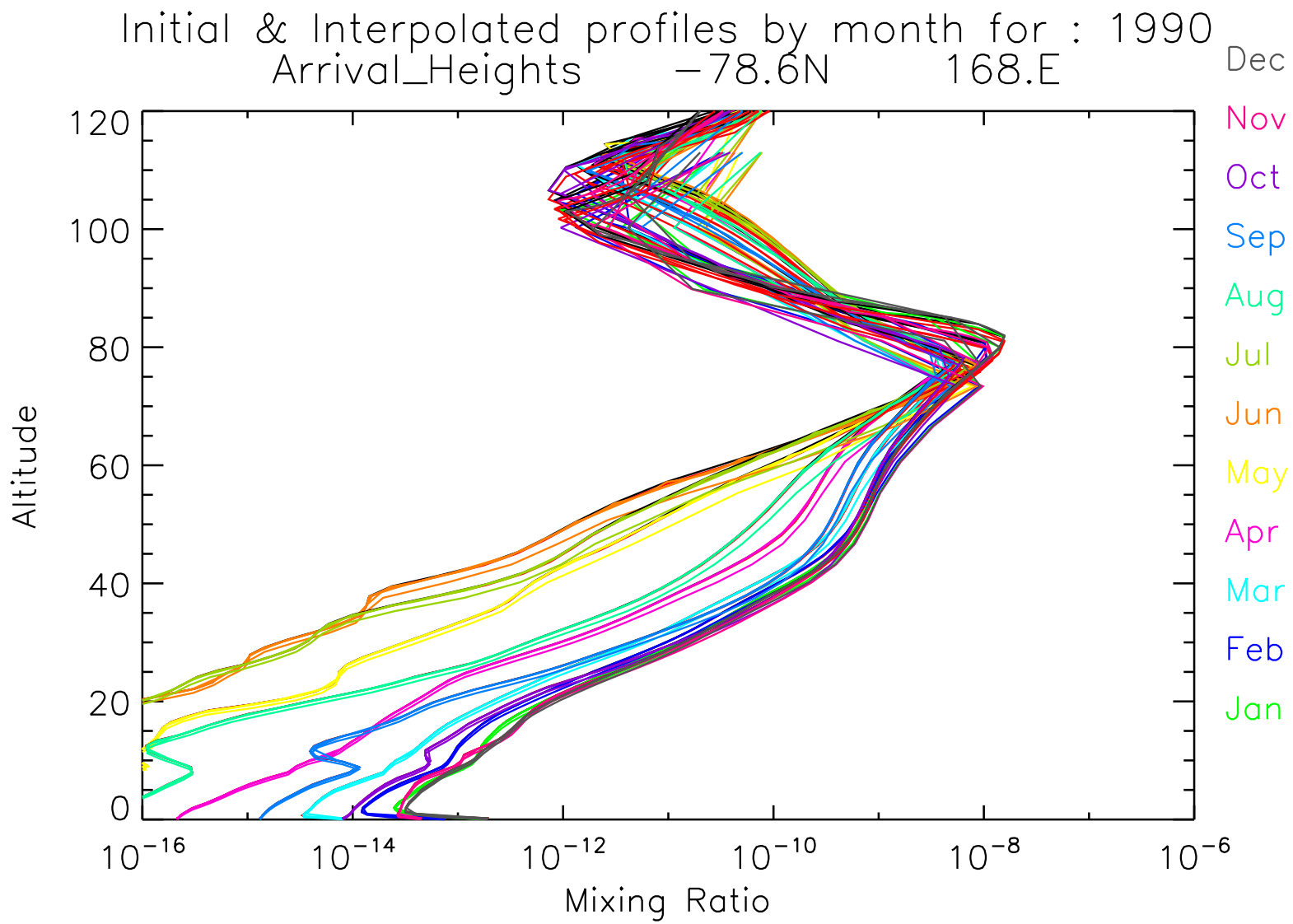
Jan


Initial & Interpolated profiles by month for : 1990
Arrival_Heights −78.6N 168.E
Dec
Nov
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Jan
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Altitude
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10^{-12}
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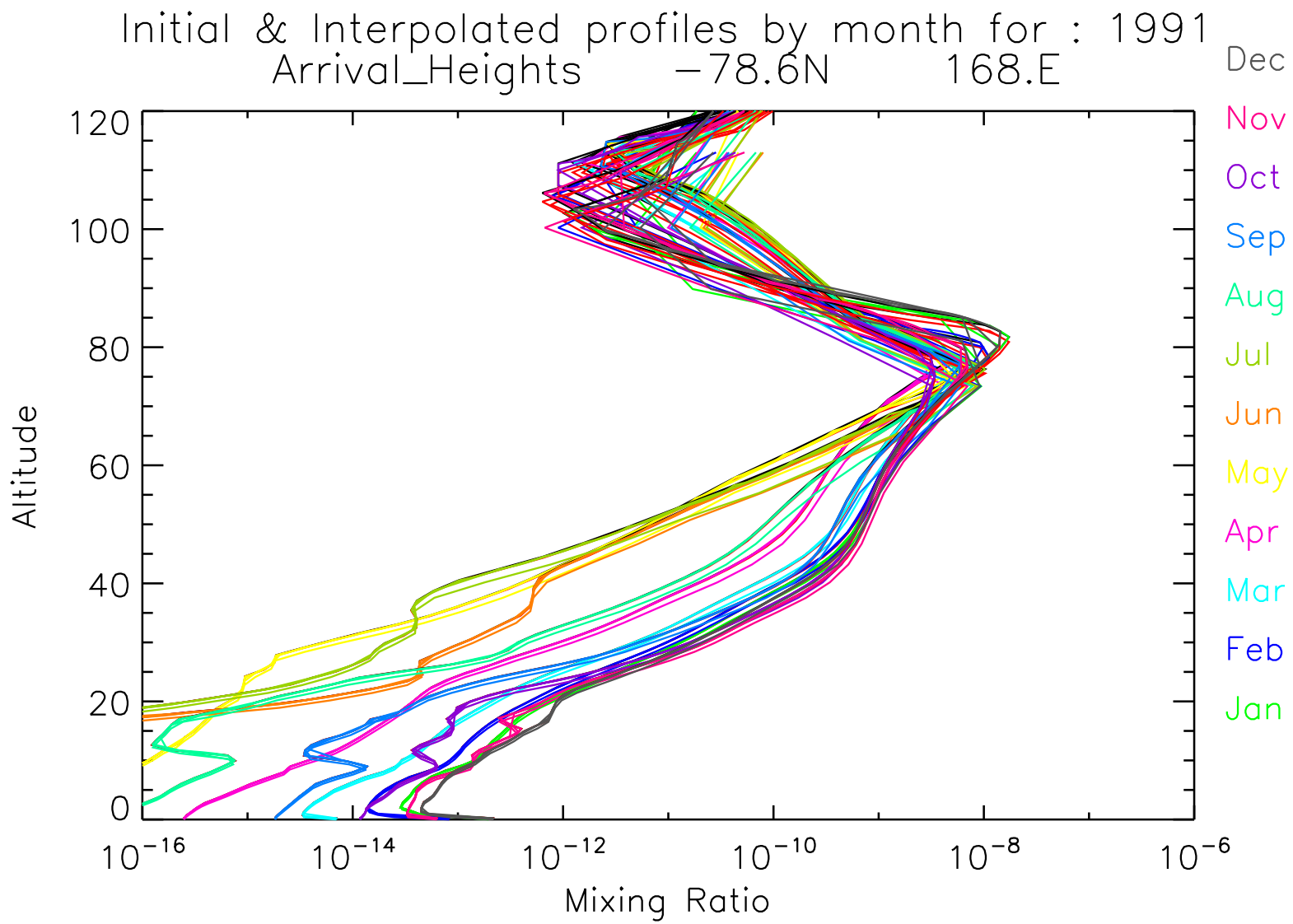
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Arrival_Heights −78.6N 168.E
Dec
Nov
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Jul
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May
Apr
Mar
Feb
Jan
120
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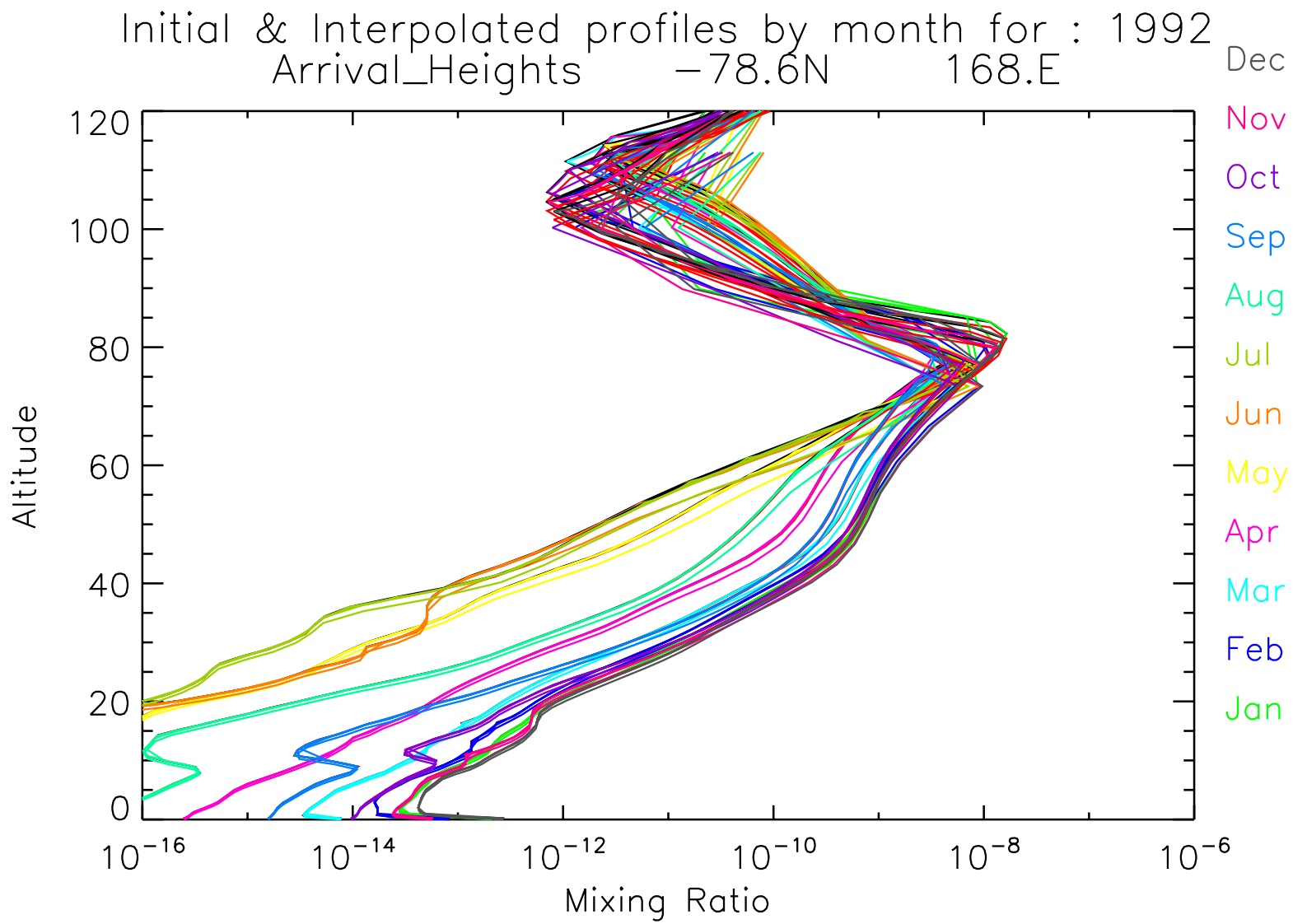
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
Arrival_Heights −78.6N 168.E
Dec
Nov
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May
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Altitude
120
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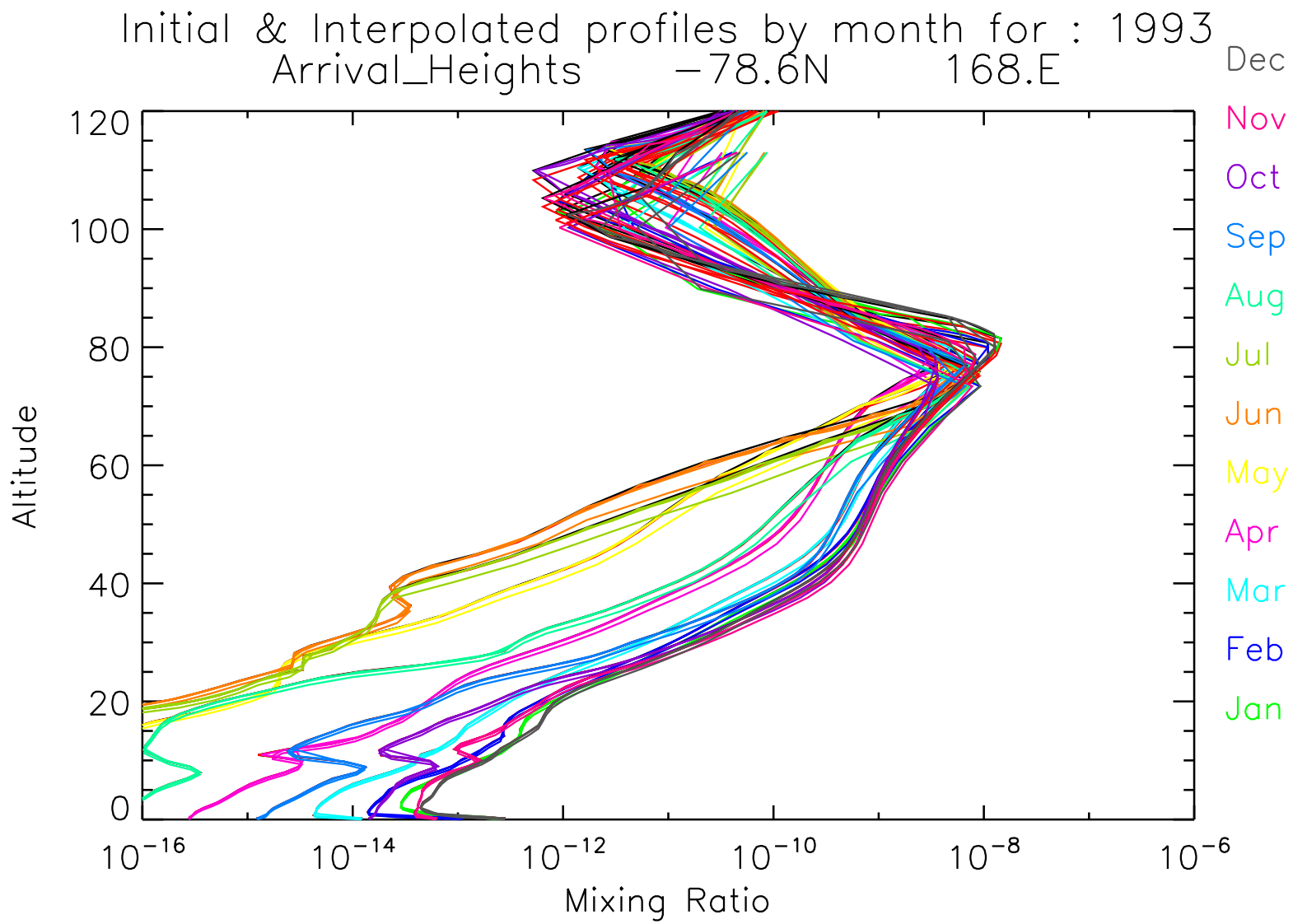
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
Arrival_Heights −78.6N 168.E
Dec
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Jan
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Altitude
10^{-16}
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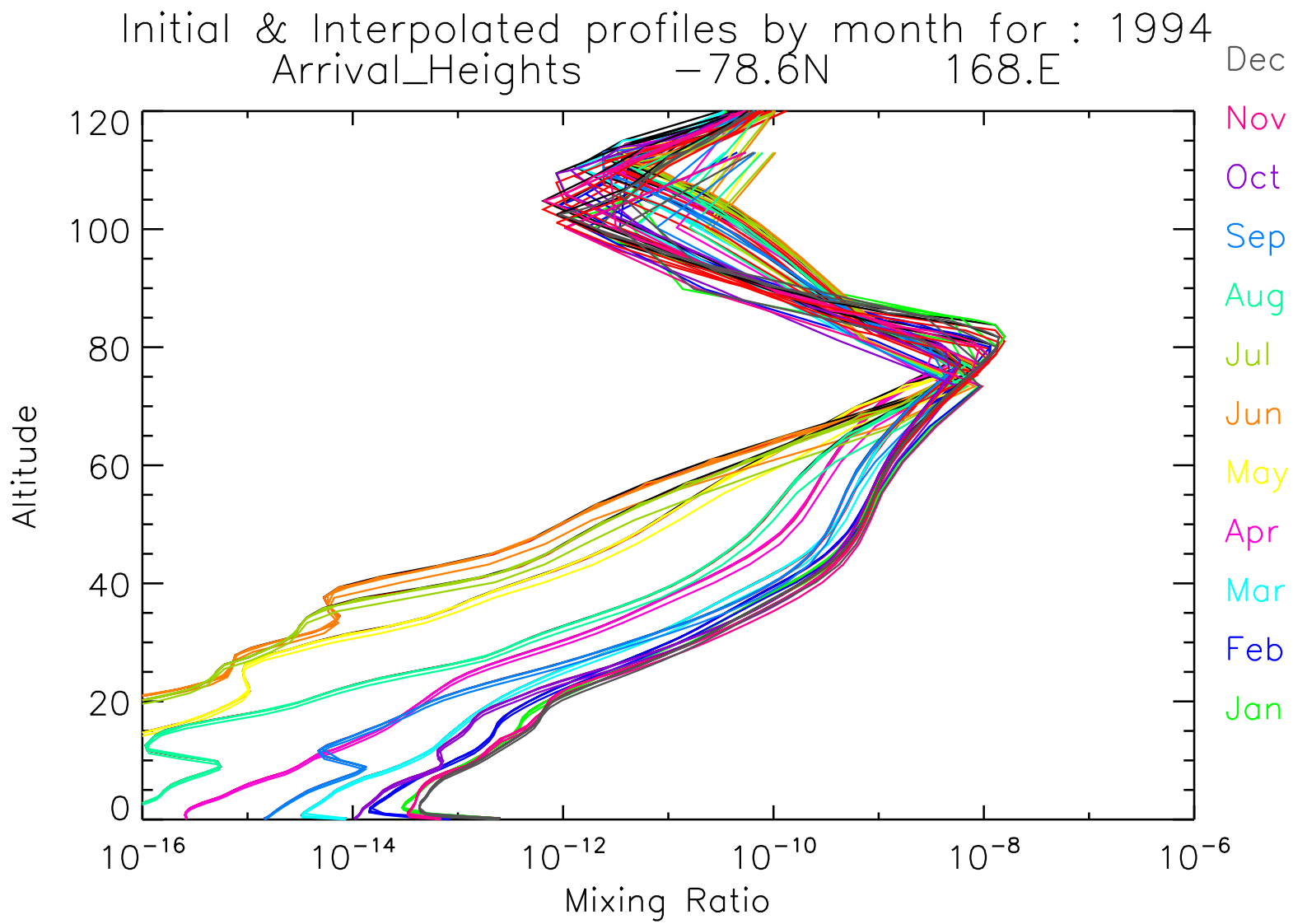
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Arrival_Heights −78.6N 168.E
Dec
Nov
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May
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Jan
120
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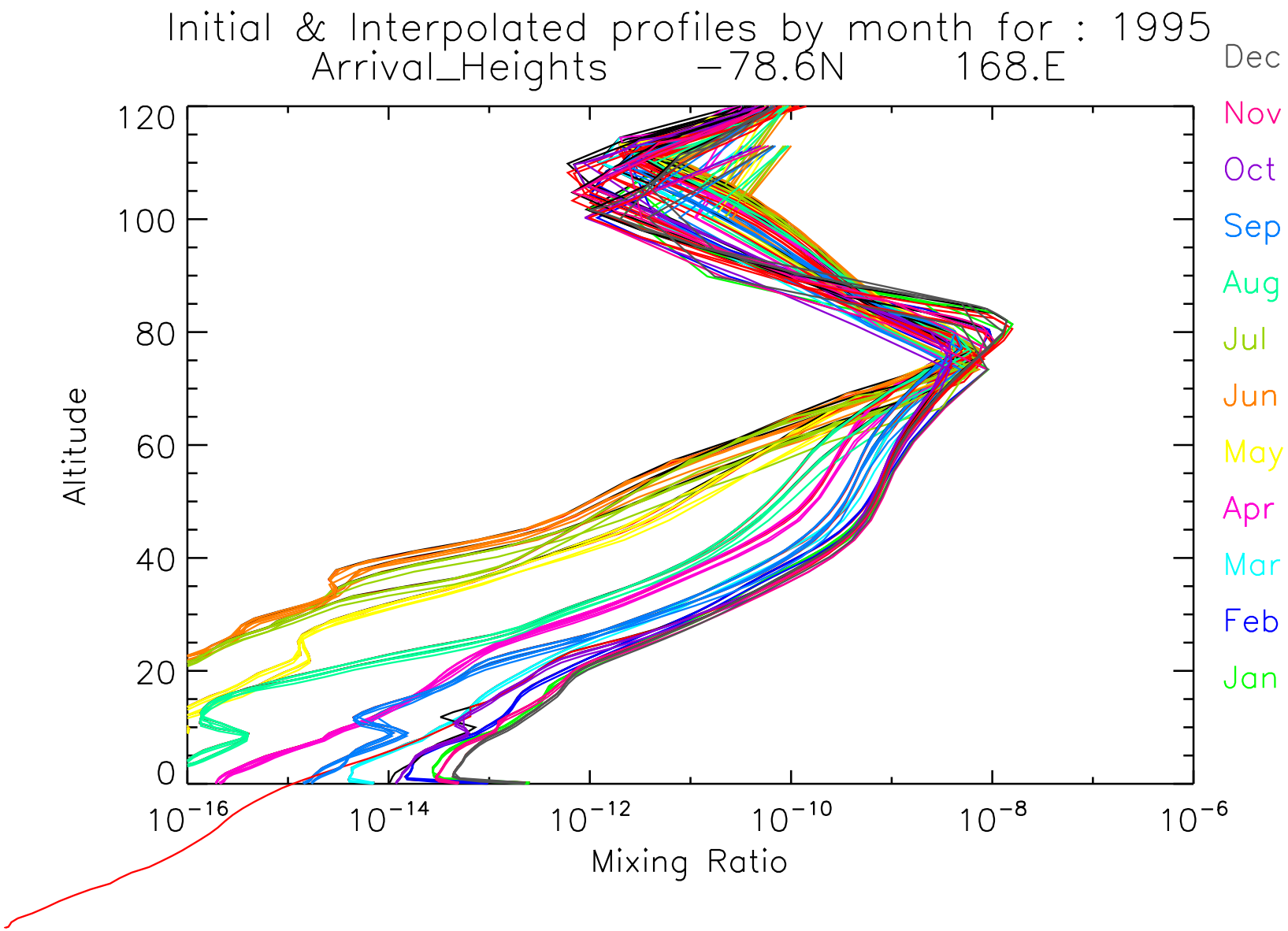
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
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60
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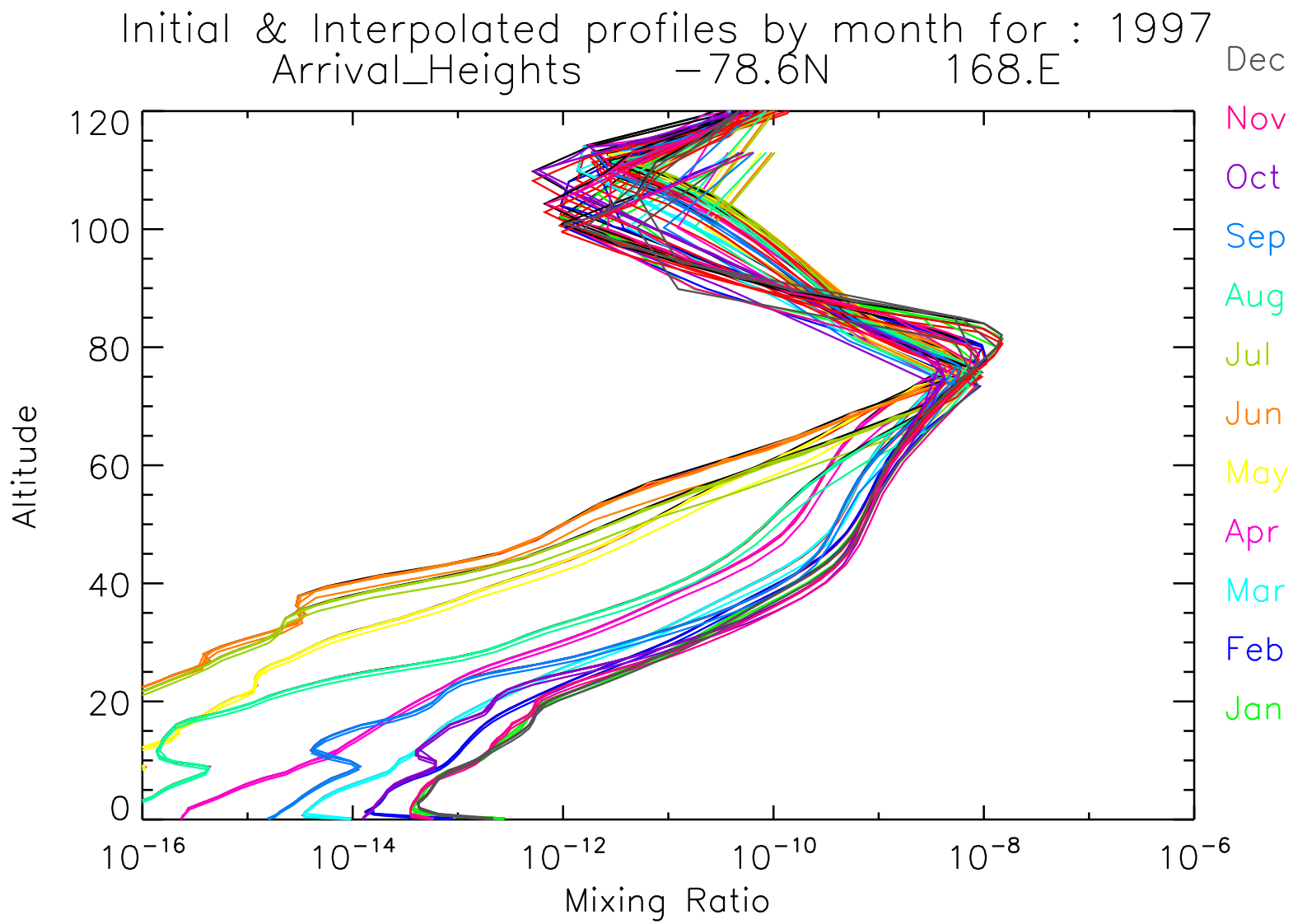
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Arrival_Heights −78.6N 168.E
Dec
Nov
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May
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Feb
Jan
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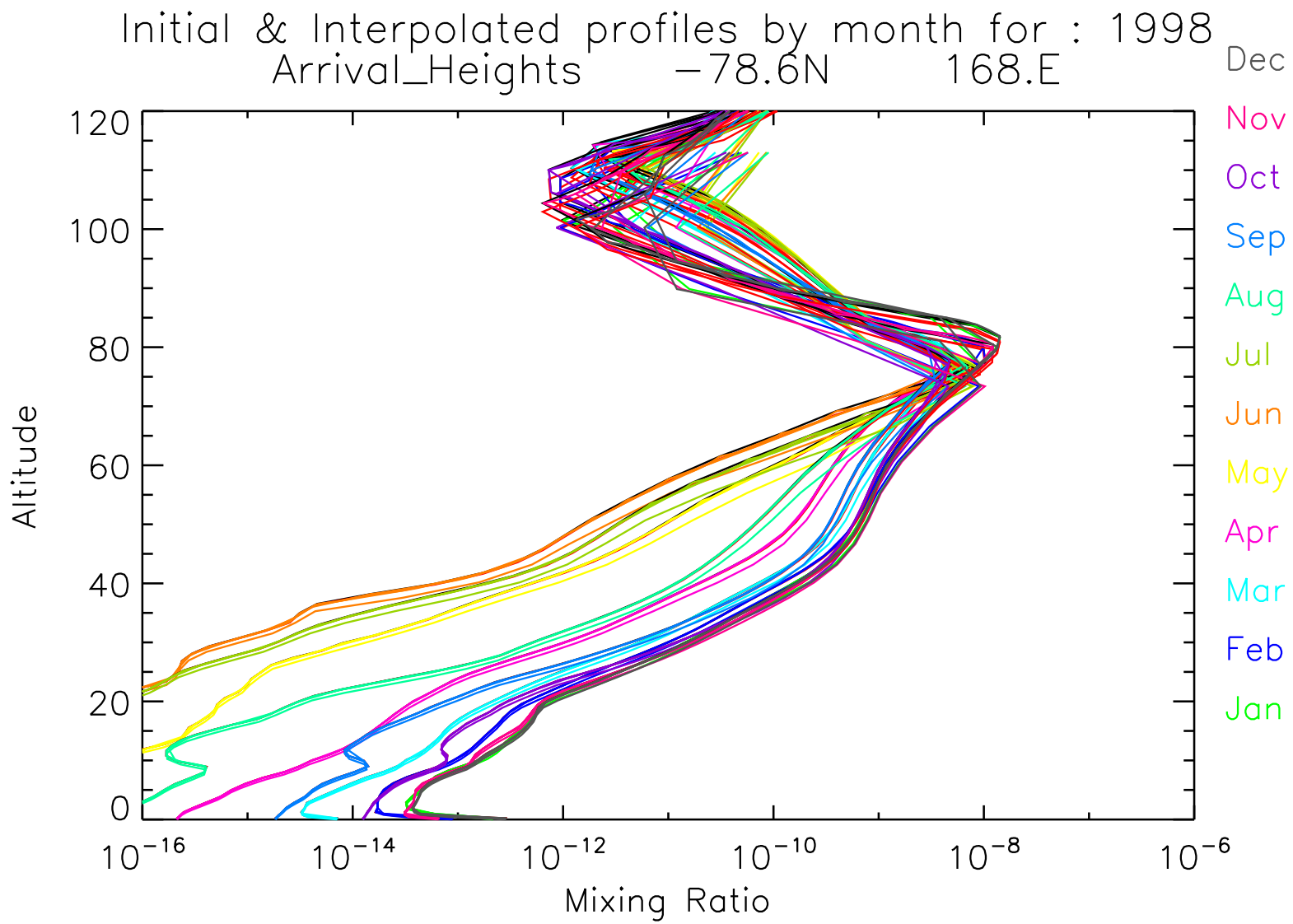
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
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May
Apr
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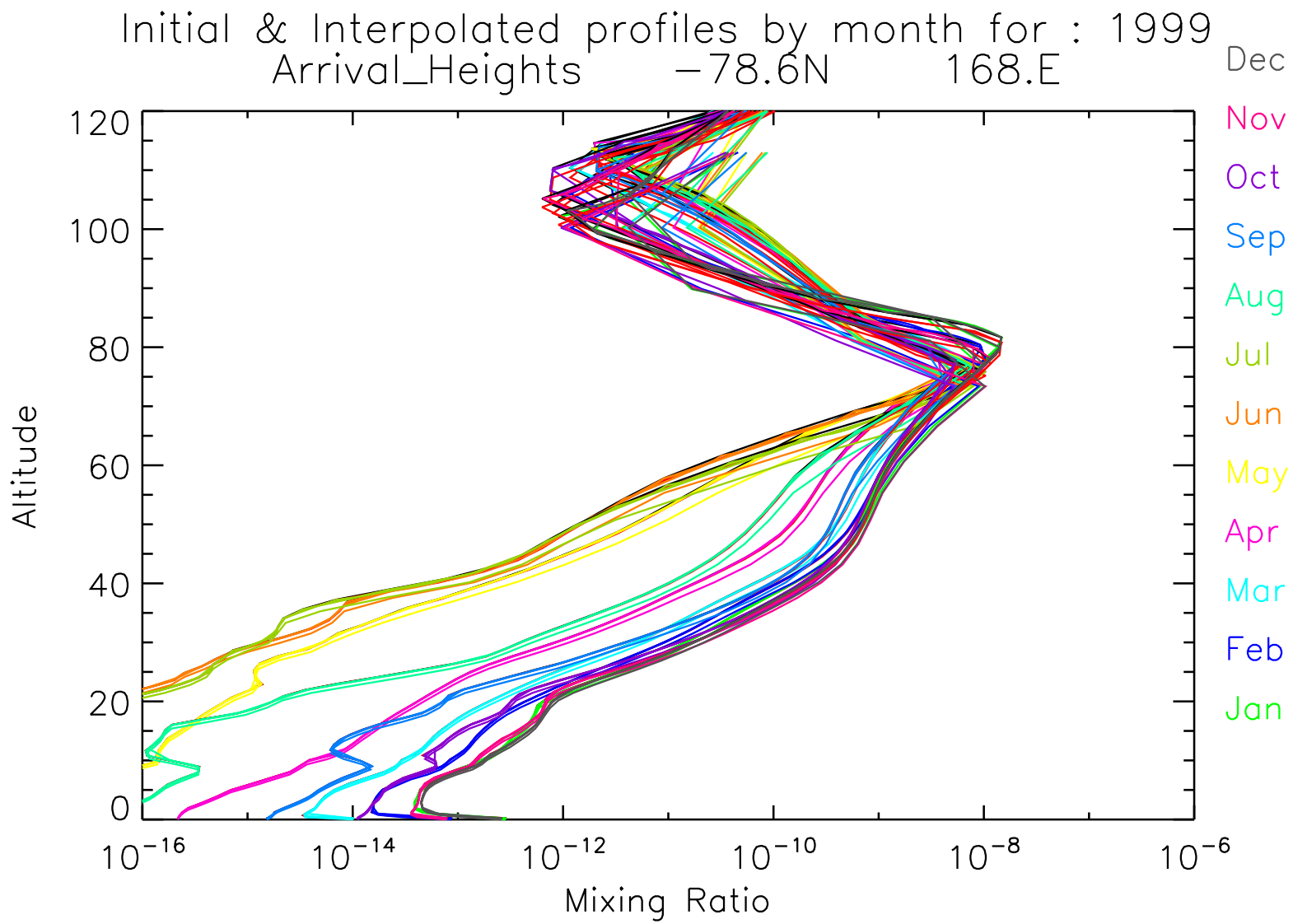
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Arrival_Heights −78.6N 168.E
Dec
Nov
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Feb
Jan
120
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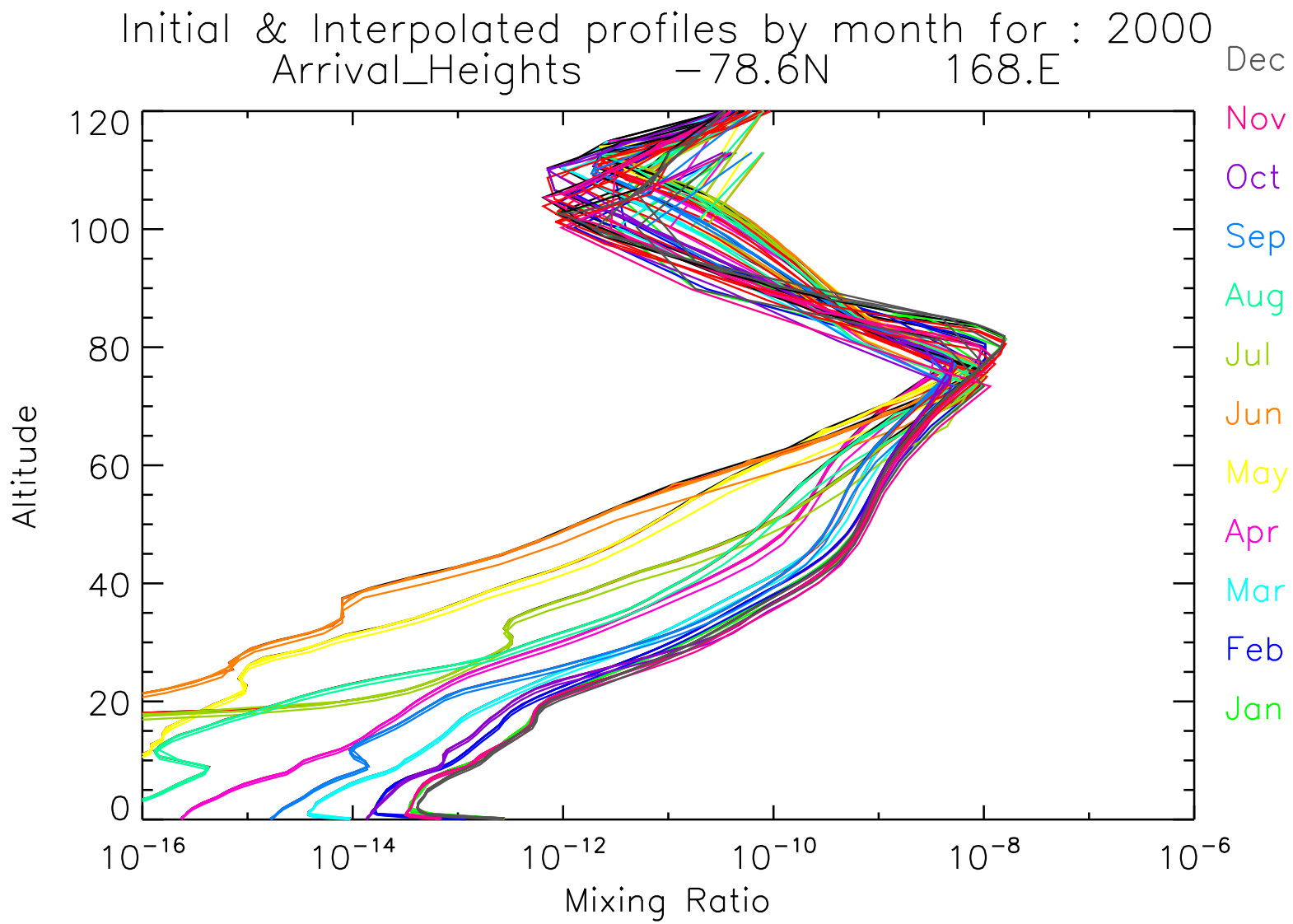
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2000
Arrival_Heights −78.6N 168.E
Dec
Nov
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May
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Mar
Feb
Jan
120
100
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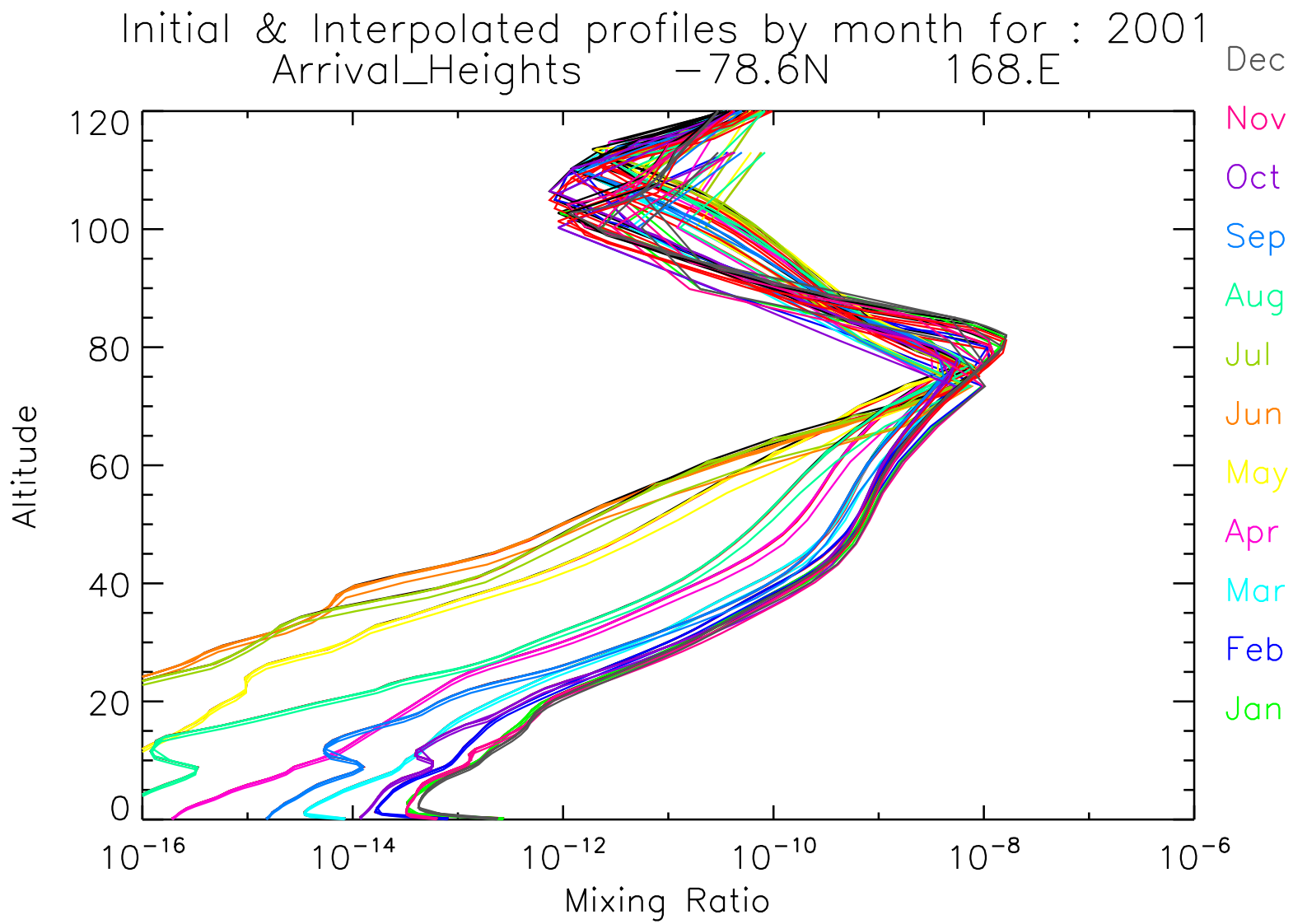
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Arrival_Heights −78.6N 168.E
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
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10^{-8}
10^{-6}
Mixing Ratio
Dec
Nov
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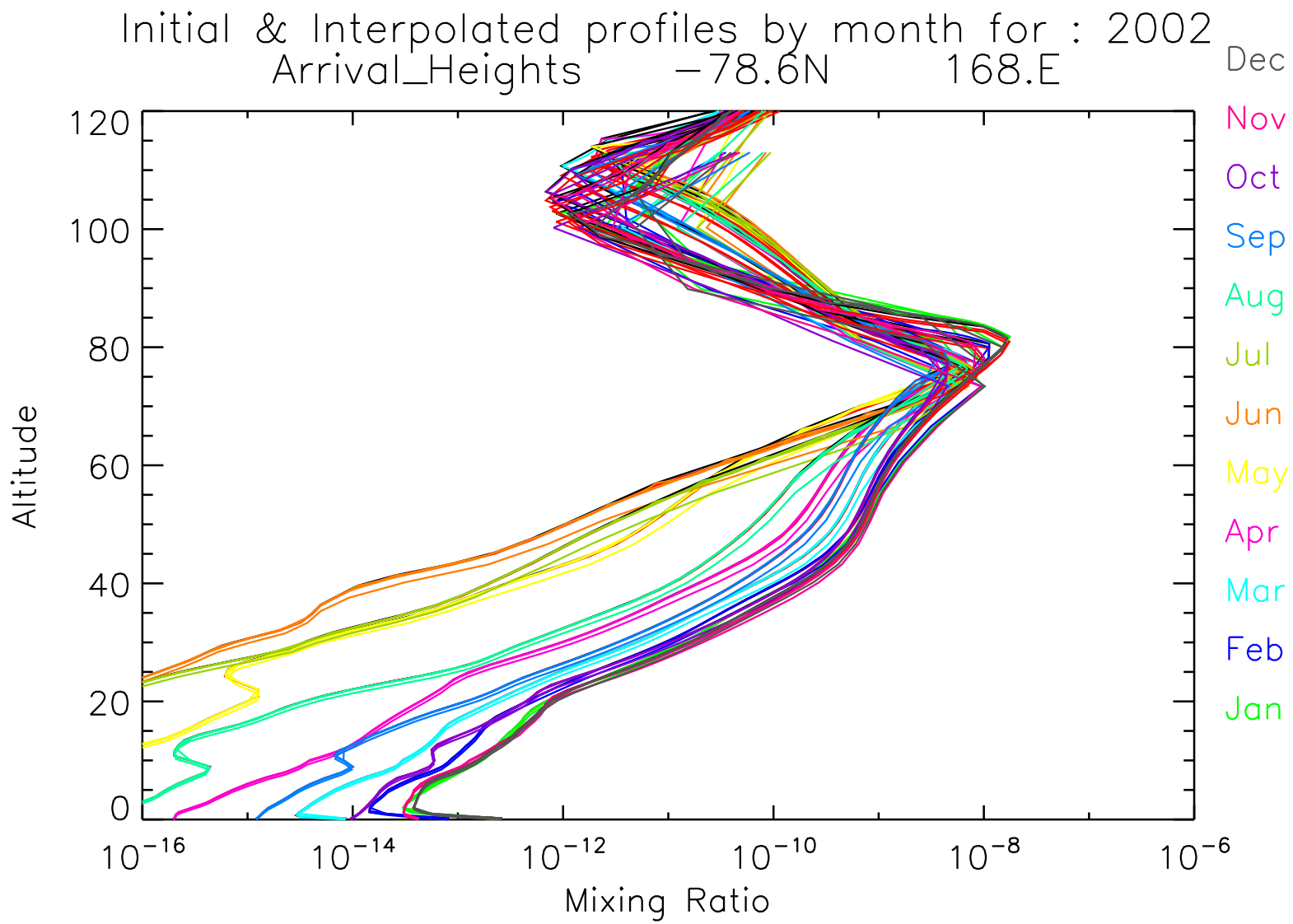
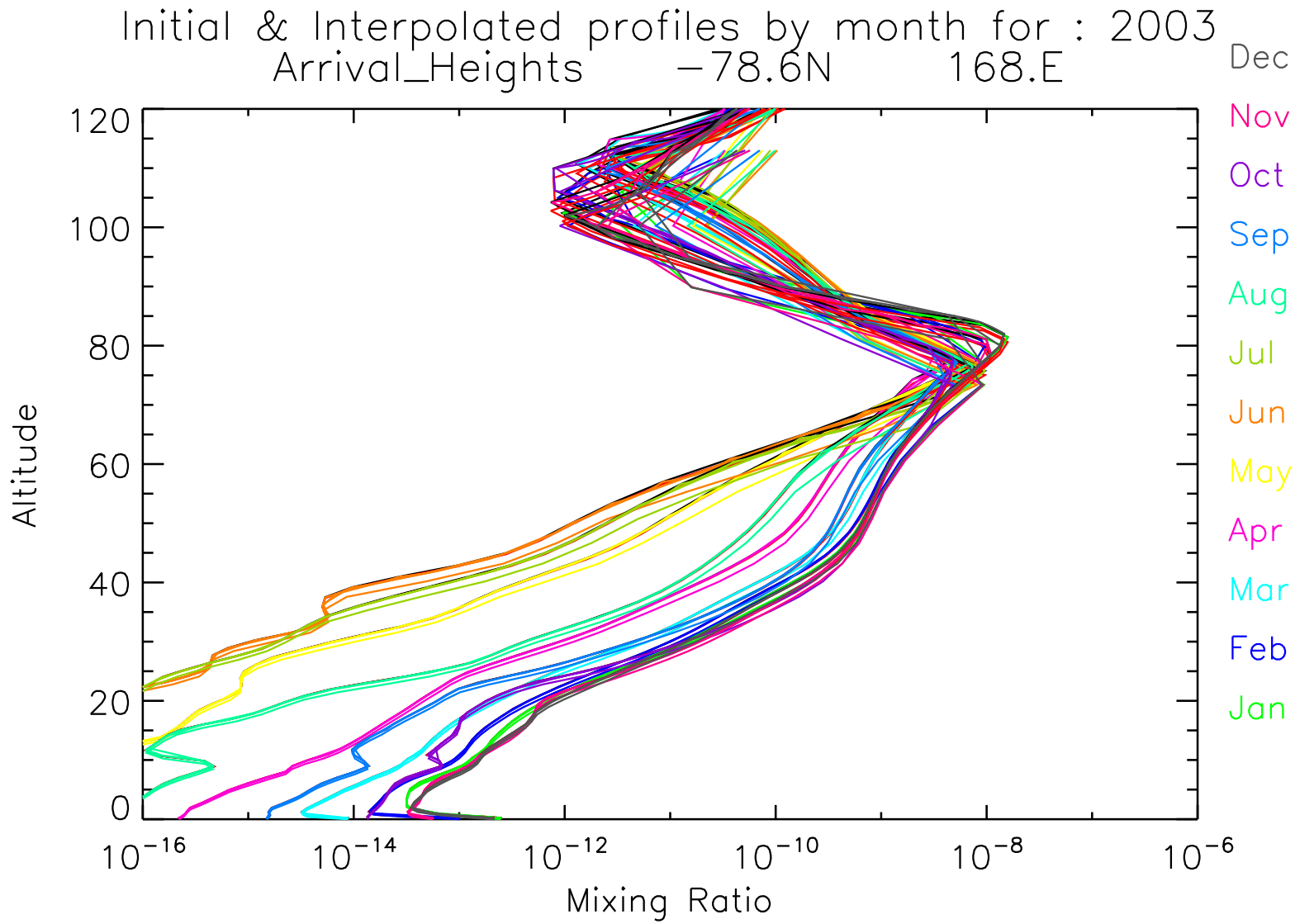
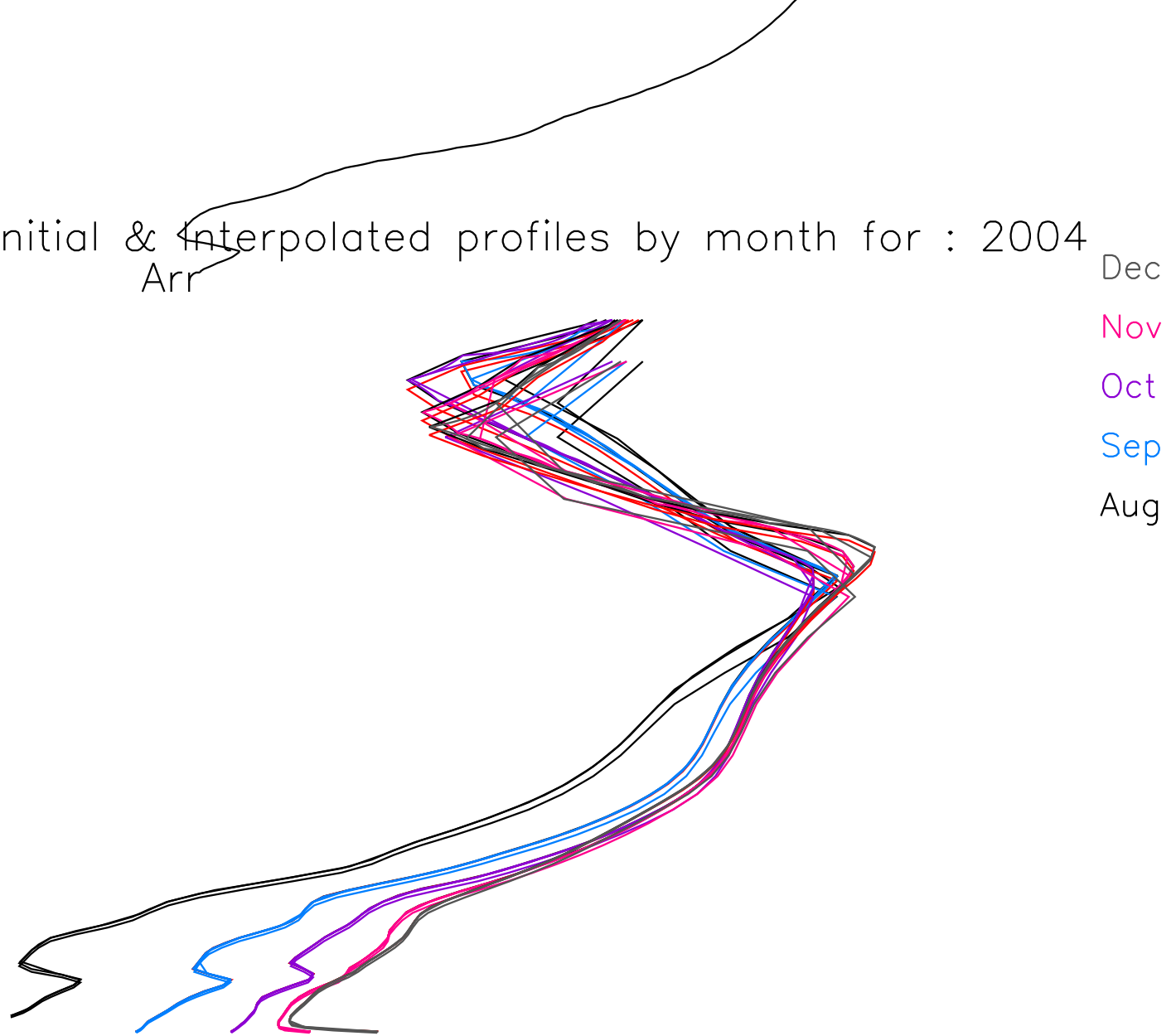
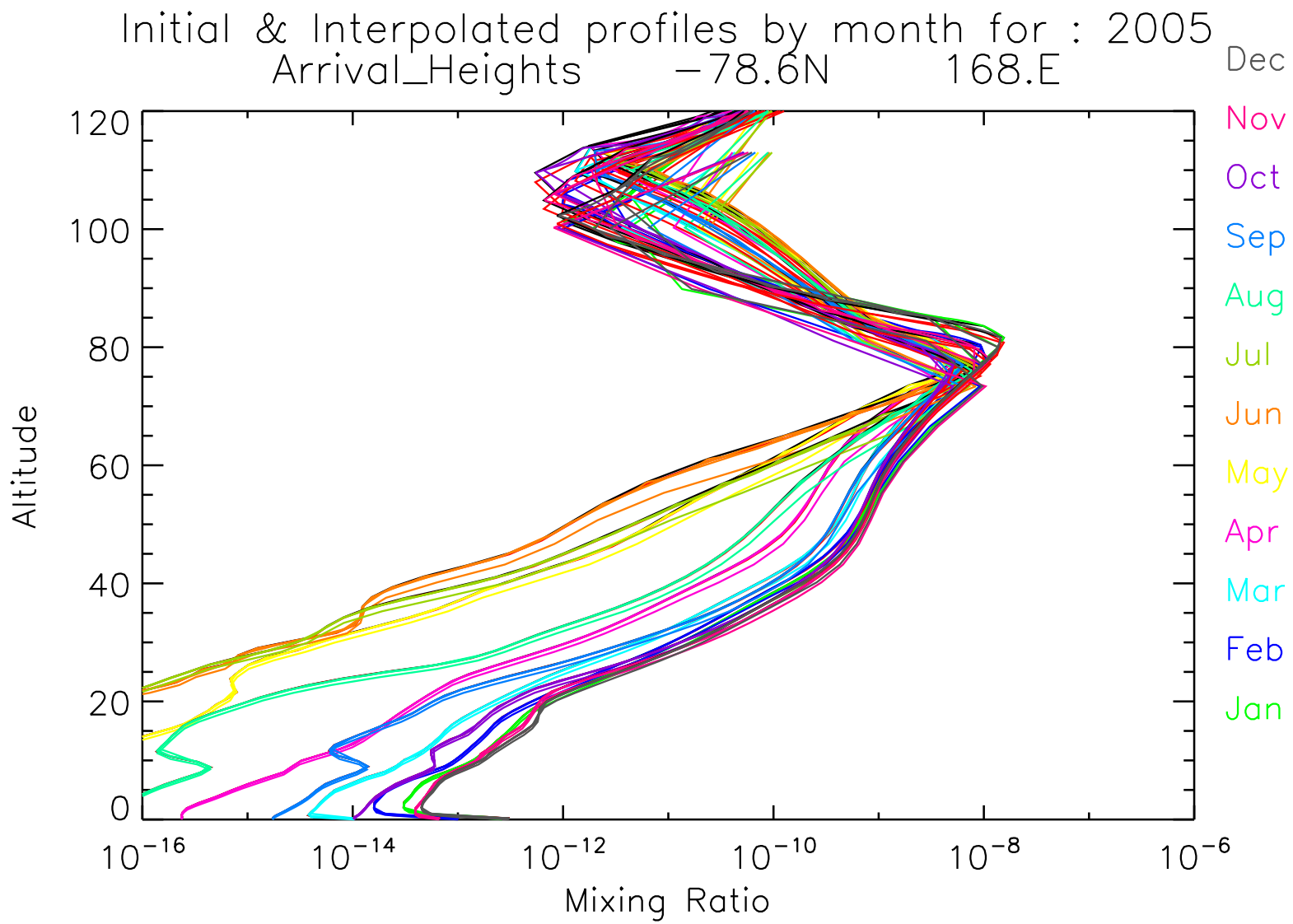
Jan

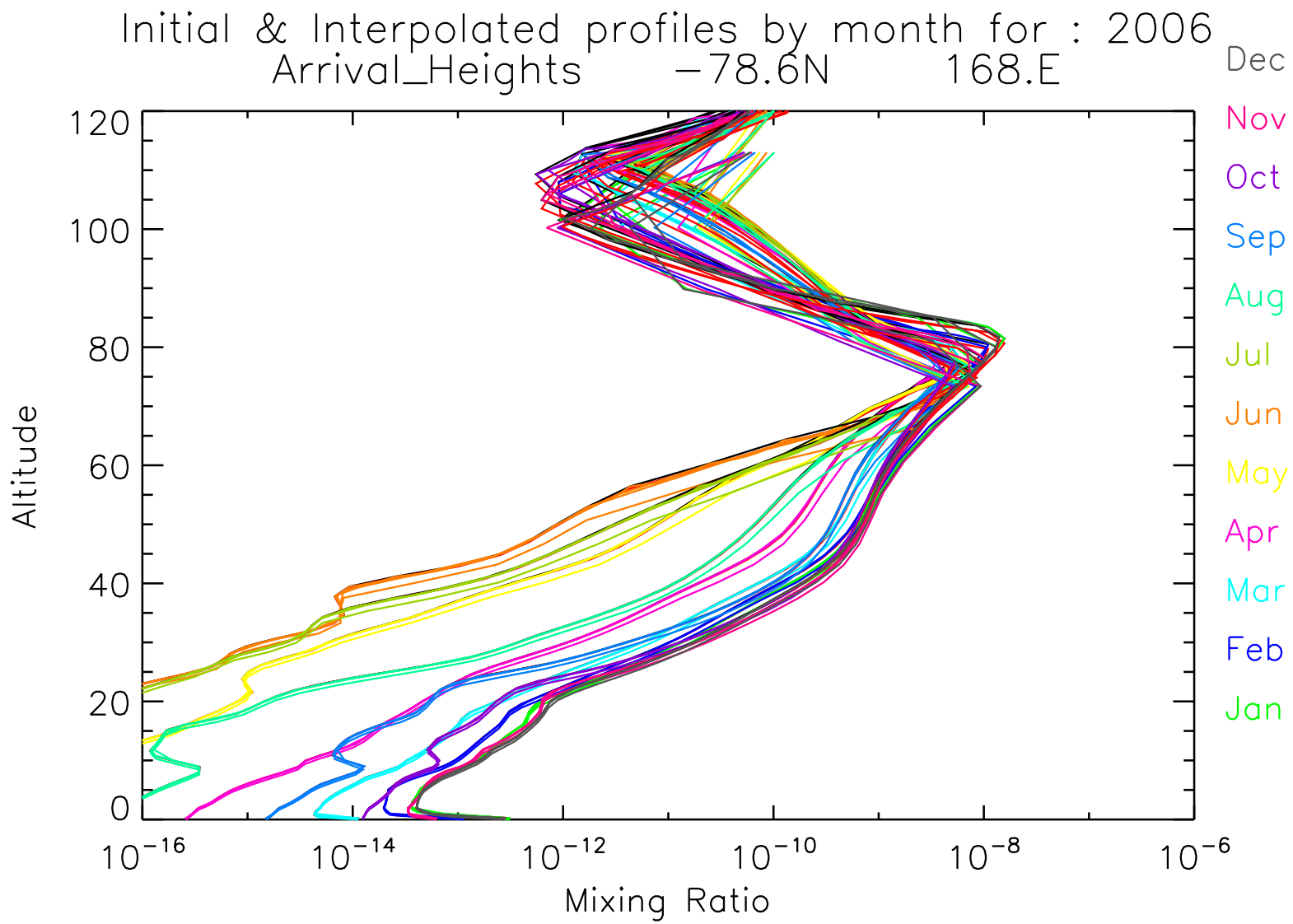

Initial & Interpolated profiles by month for : 2002
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio

Initial & Interpolated profiles by month for : 2004




Initial & Interpolated profiles by month for : 2005
Arrival_Heights −78.6N 168.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}
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
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Jun
May
Apr
Mar
Feb
Jan
120
100
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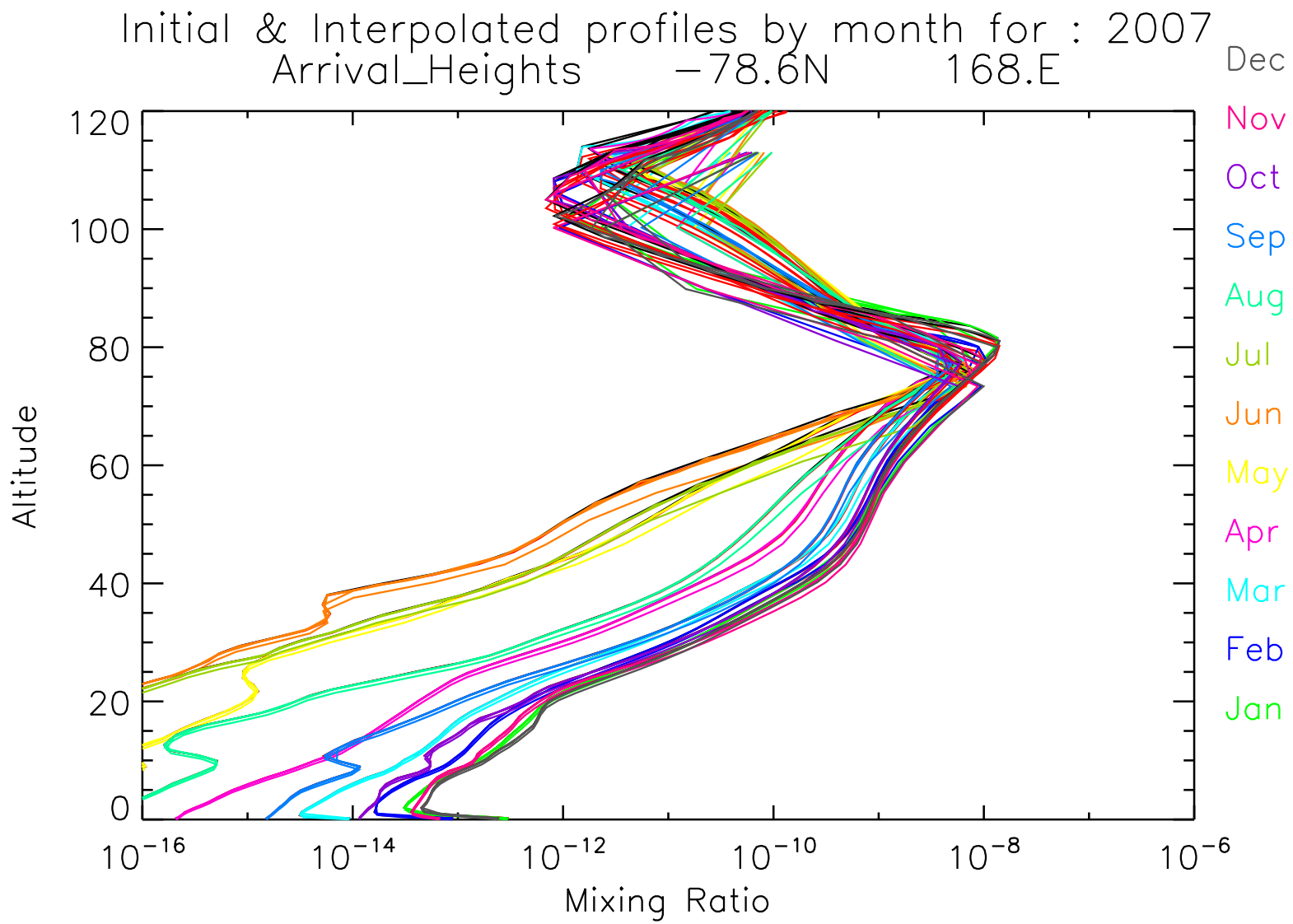
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
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Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
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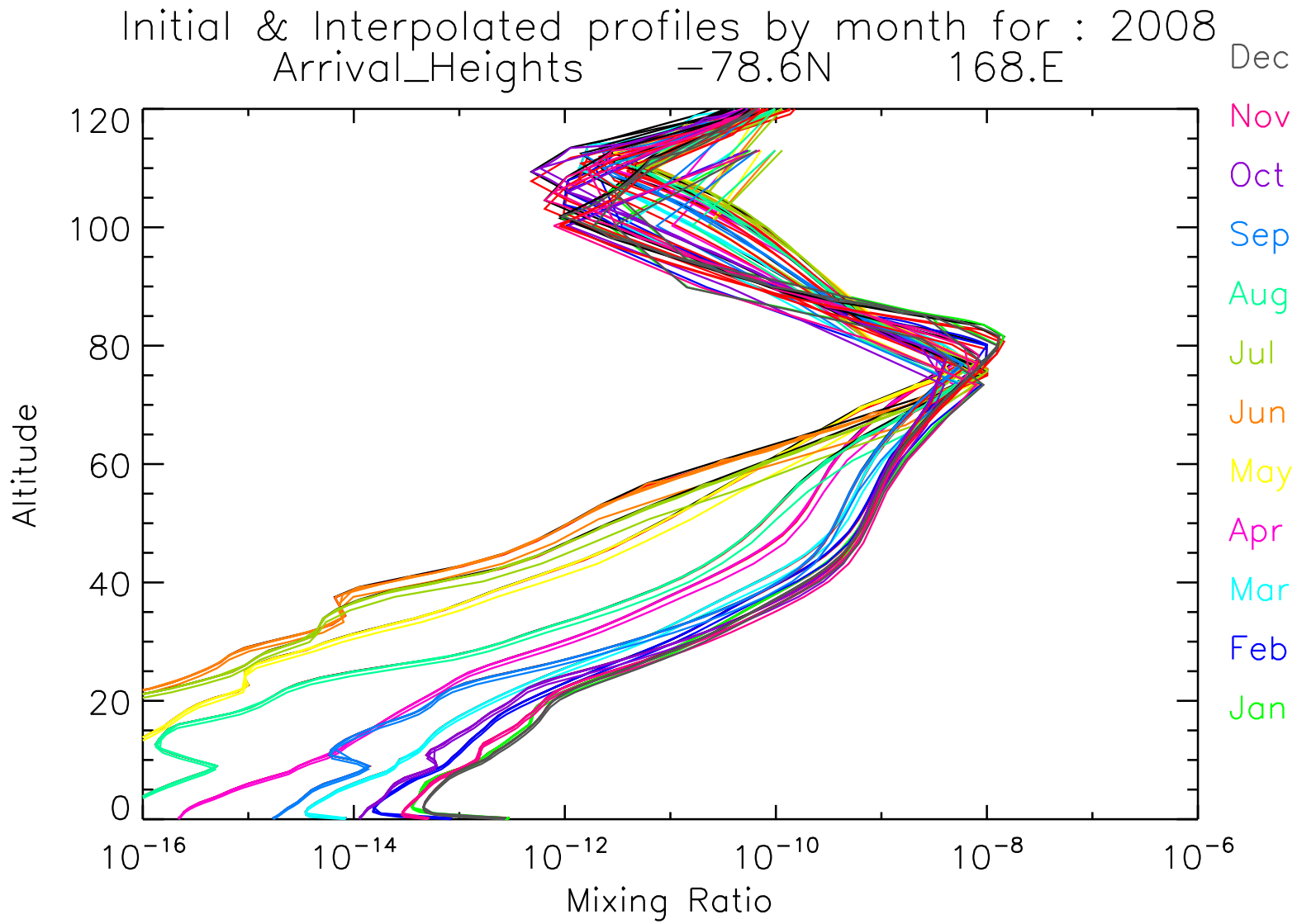
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
Arrival_Heights −78.6N 168.E
Altitude
120
100
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40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio
Dec
Nov
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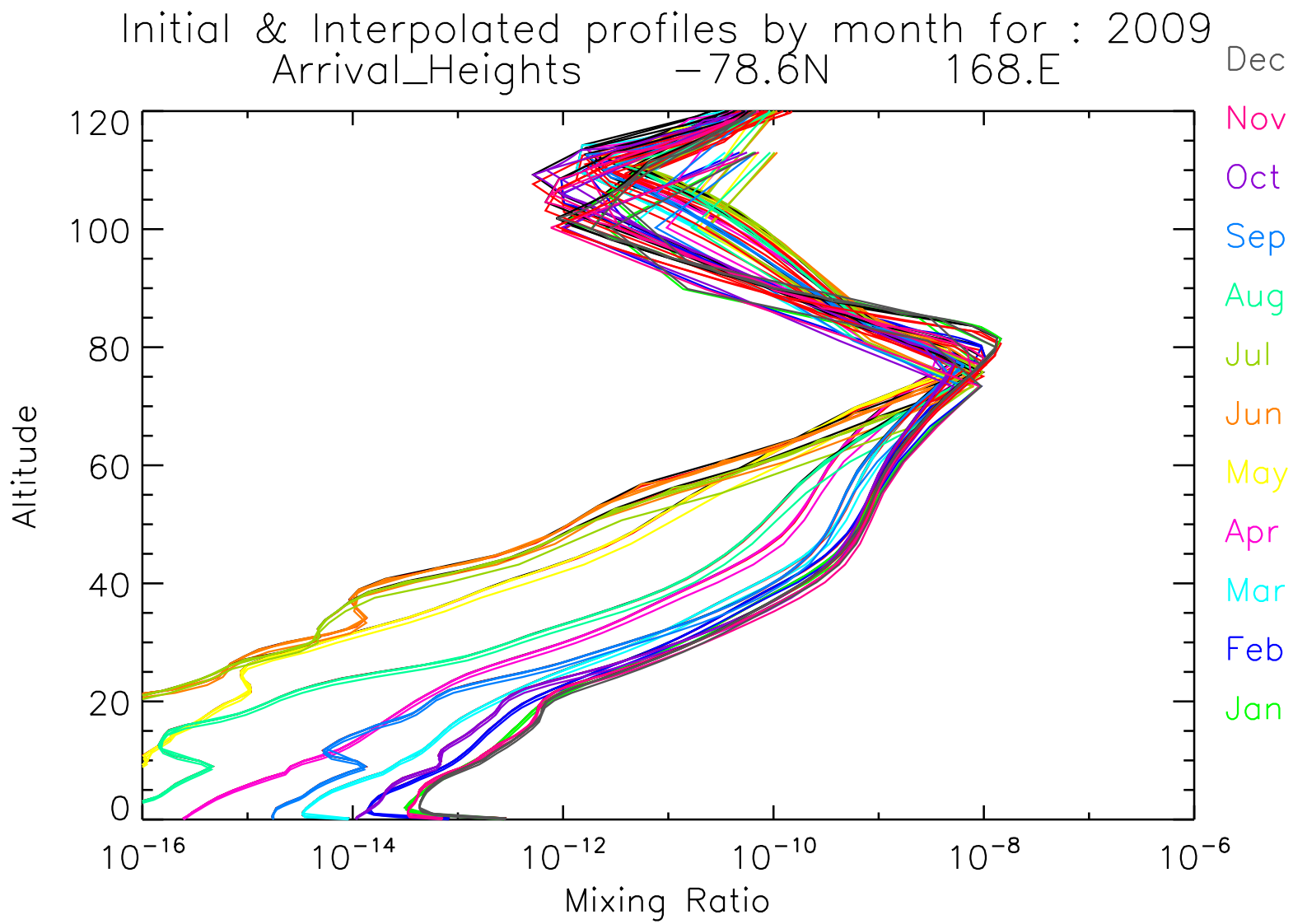
Jan


Initial & Interpolated profiles by month for : 2009
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
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Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
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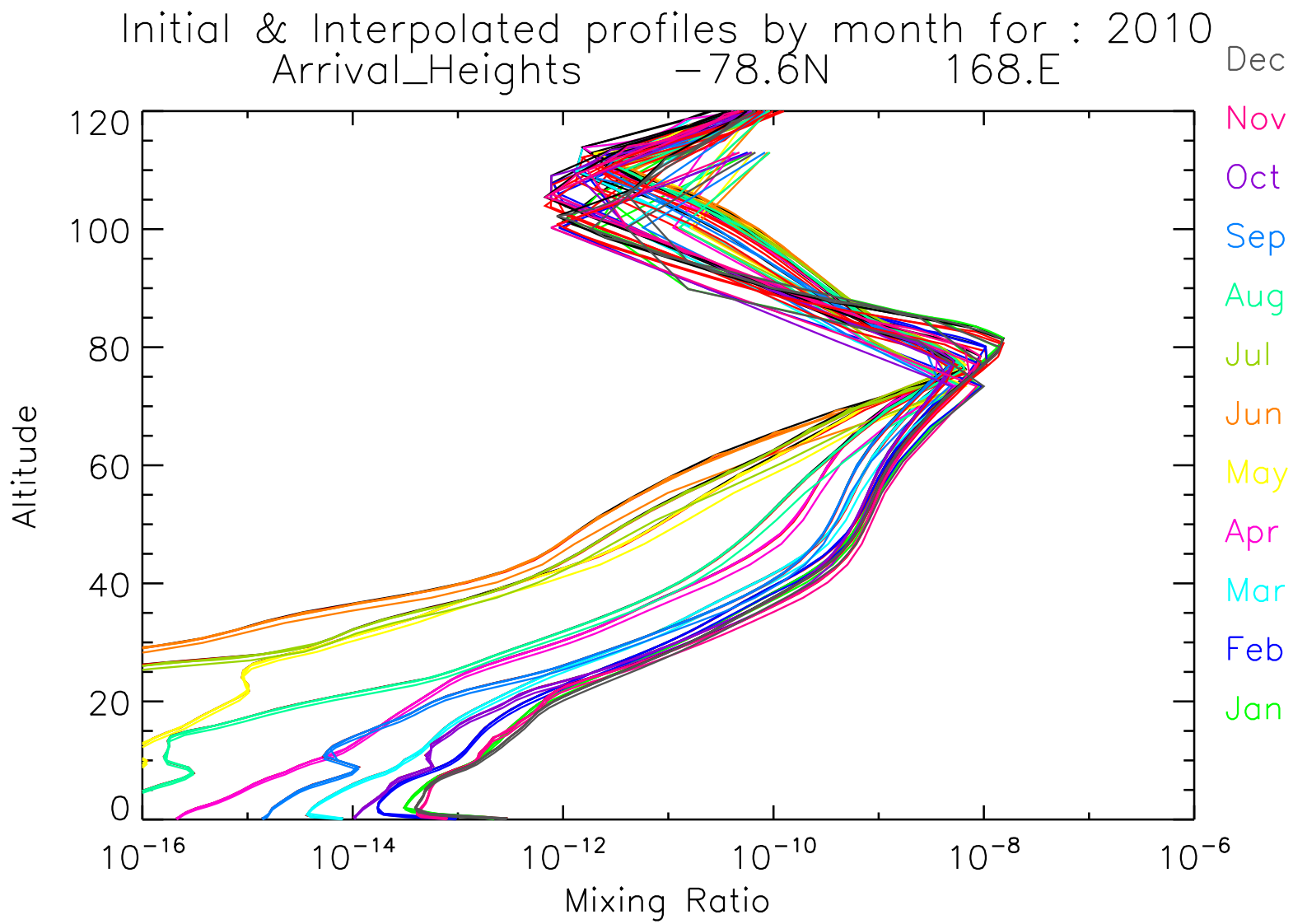
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2010
Arrival_Heights −78.6N 168.E
Dec
Nov
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Apr
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Feb
Jan
Altitude
120
100
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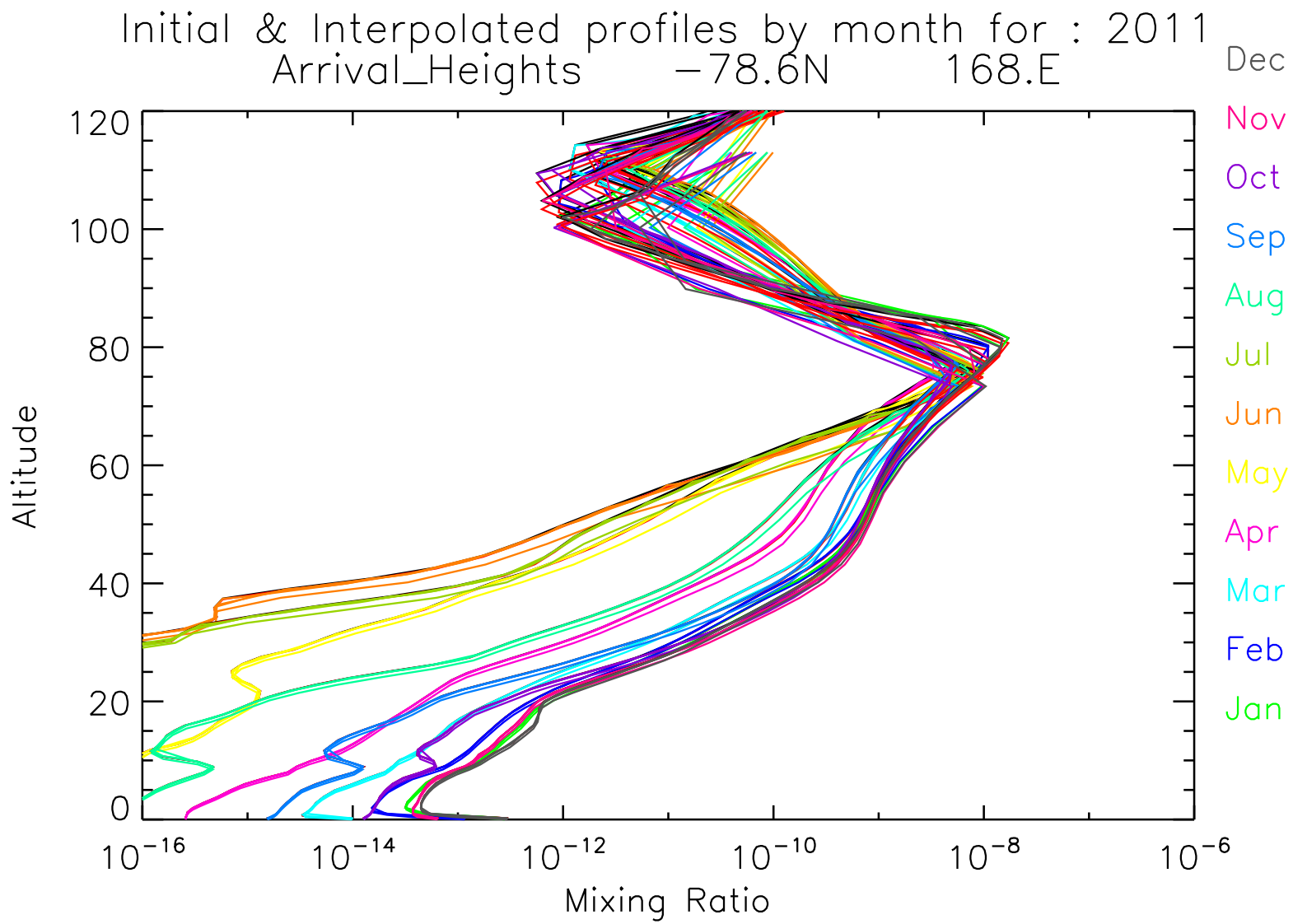
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Initial & Interpolated profiles by month for : 2011
Arrival_Heights −78.6N 168.E
Altitude
120
100
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60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio
Dec
Nov
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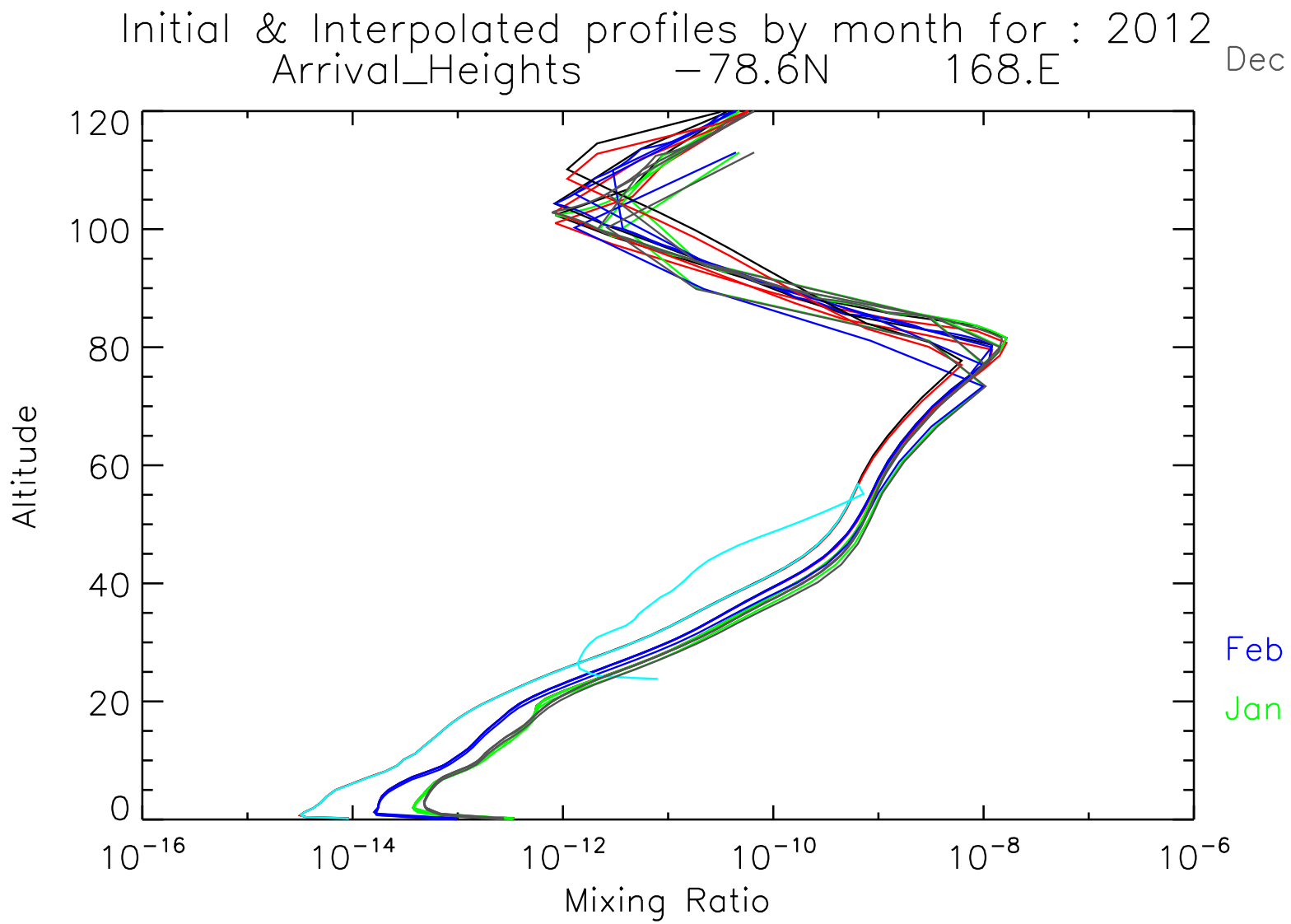
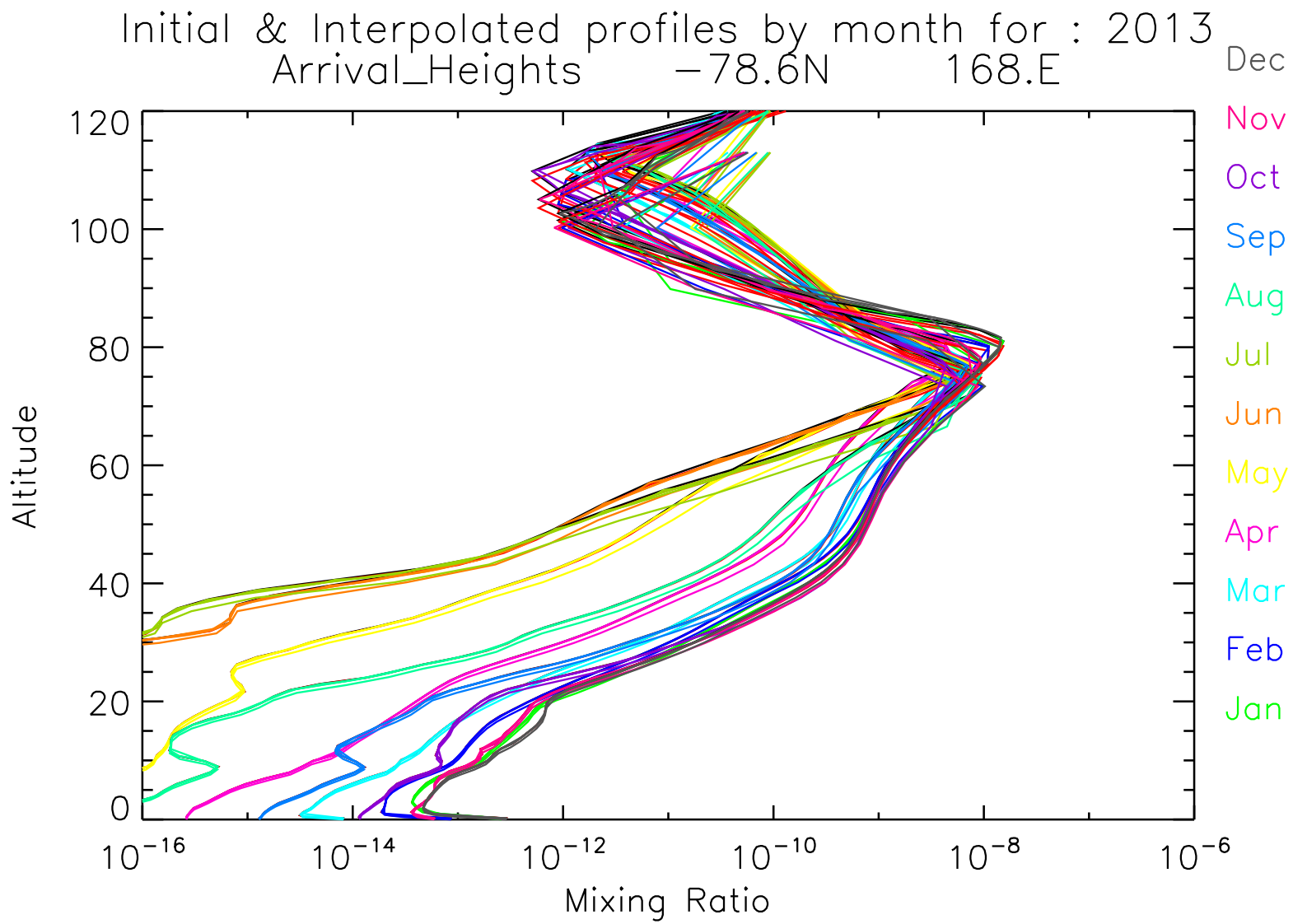
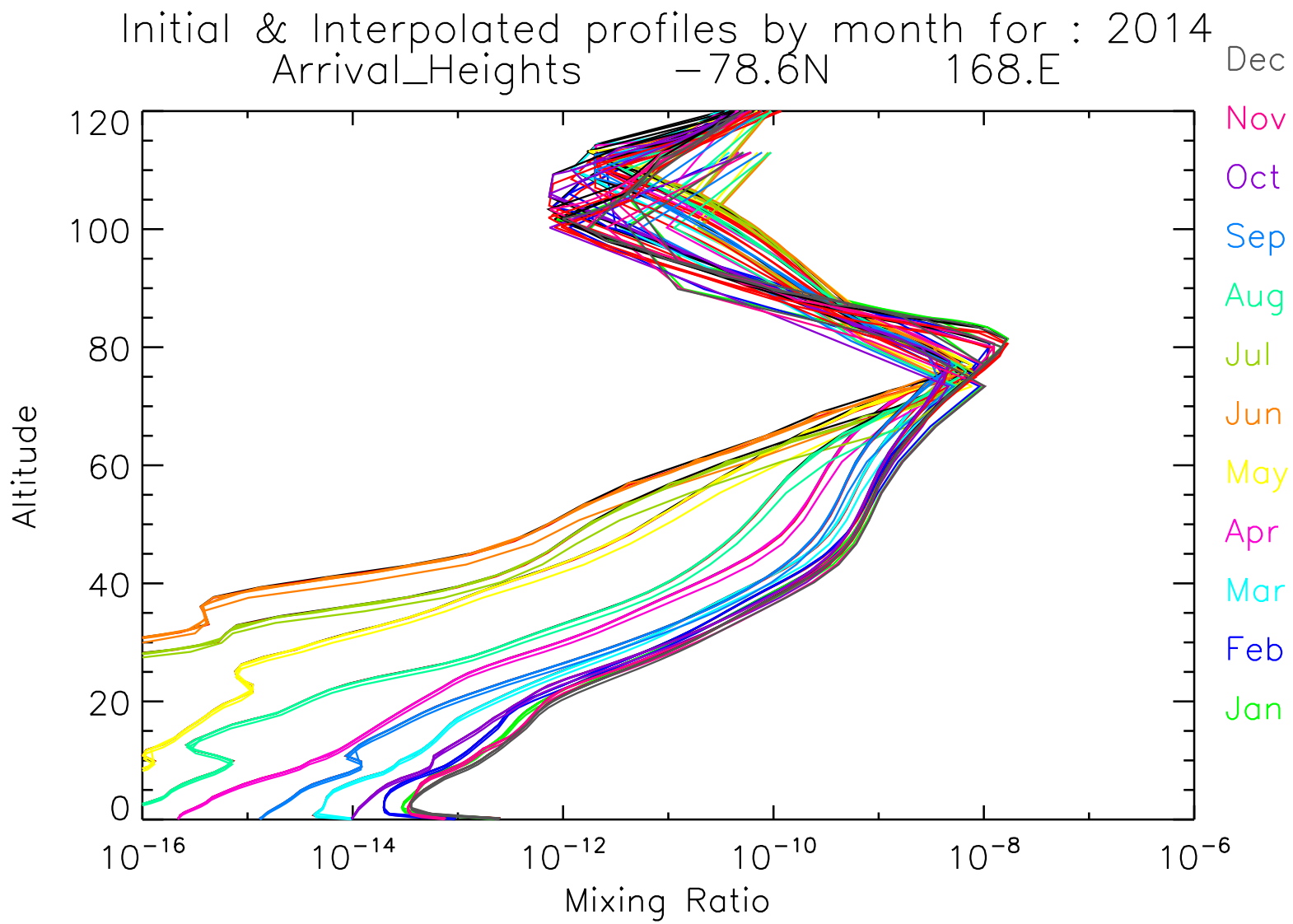
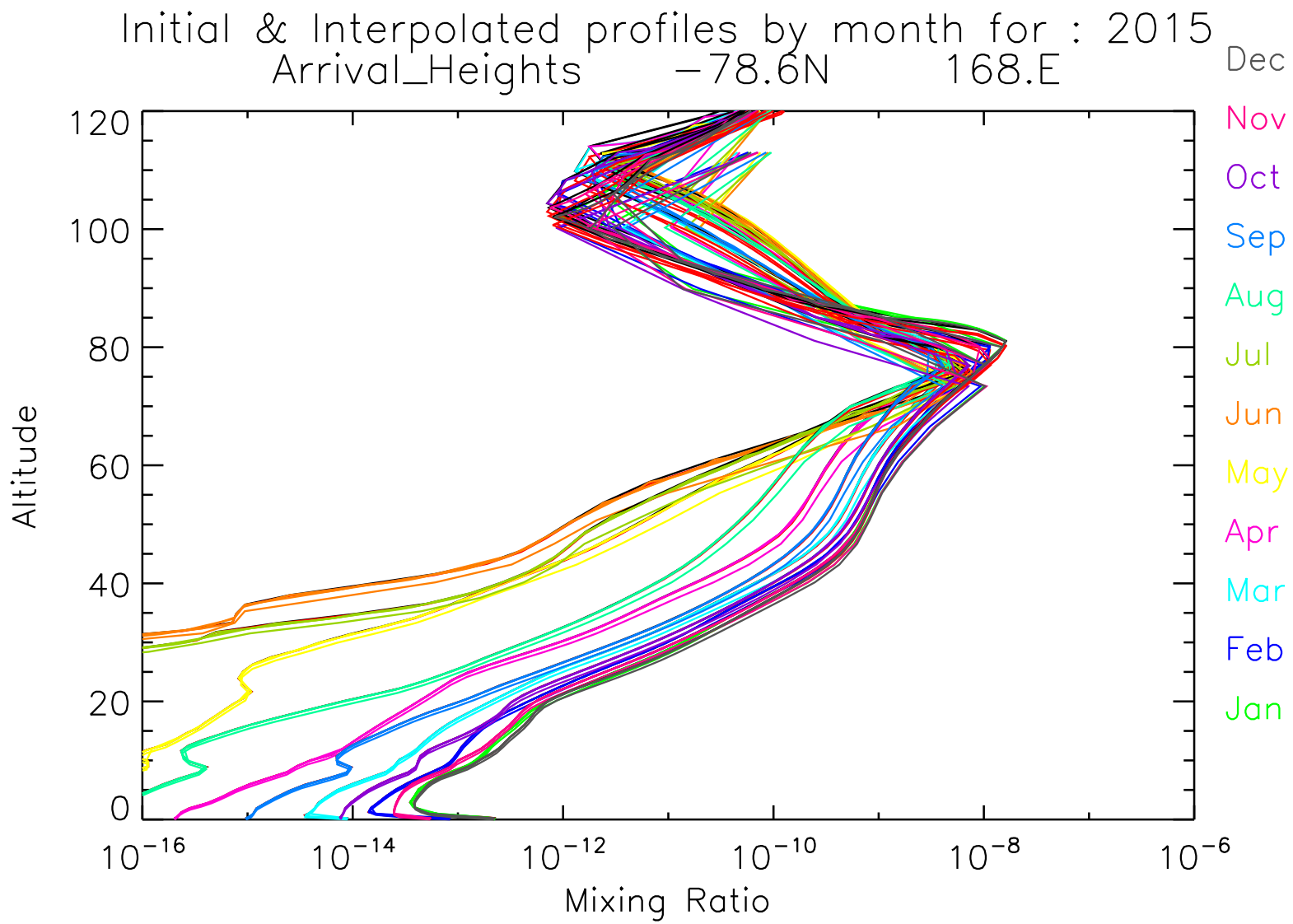
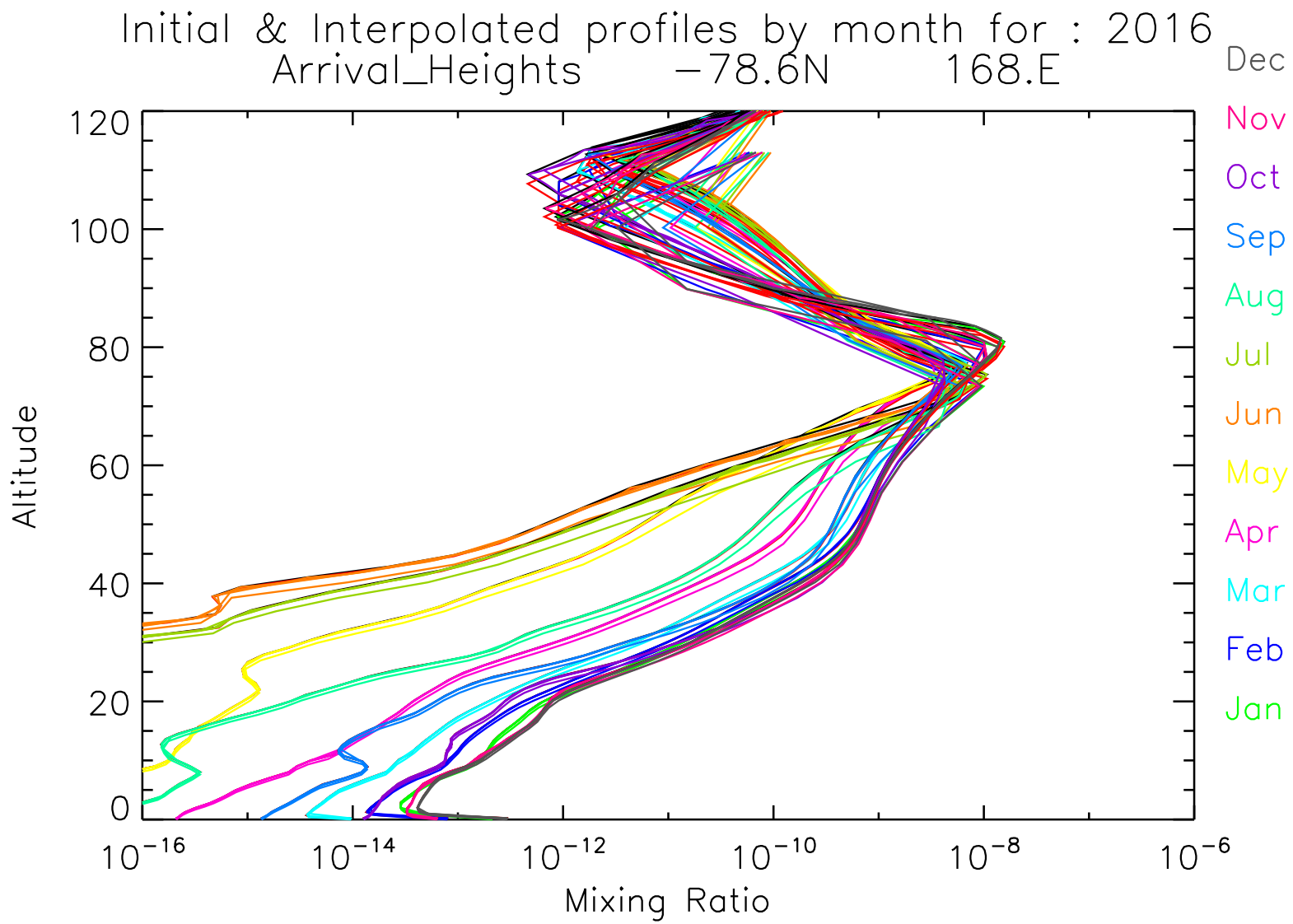
Feb
Jan

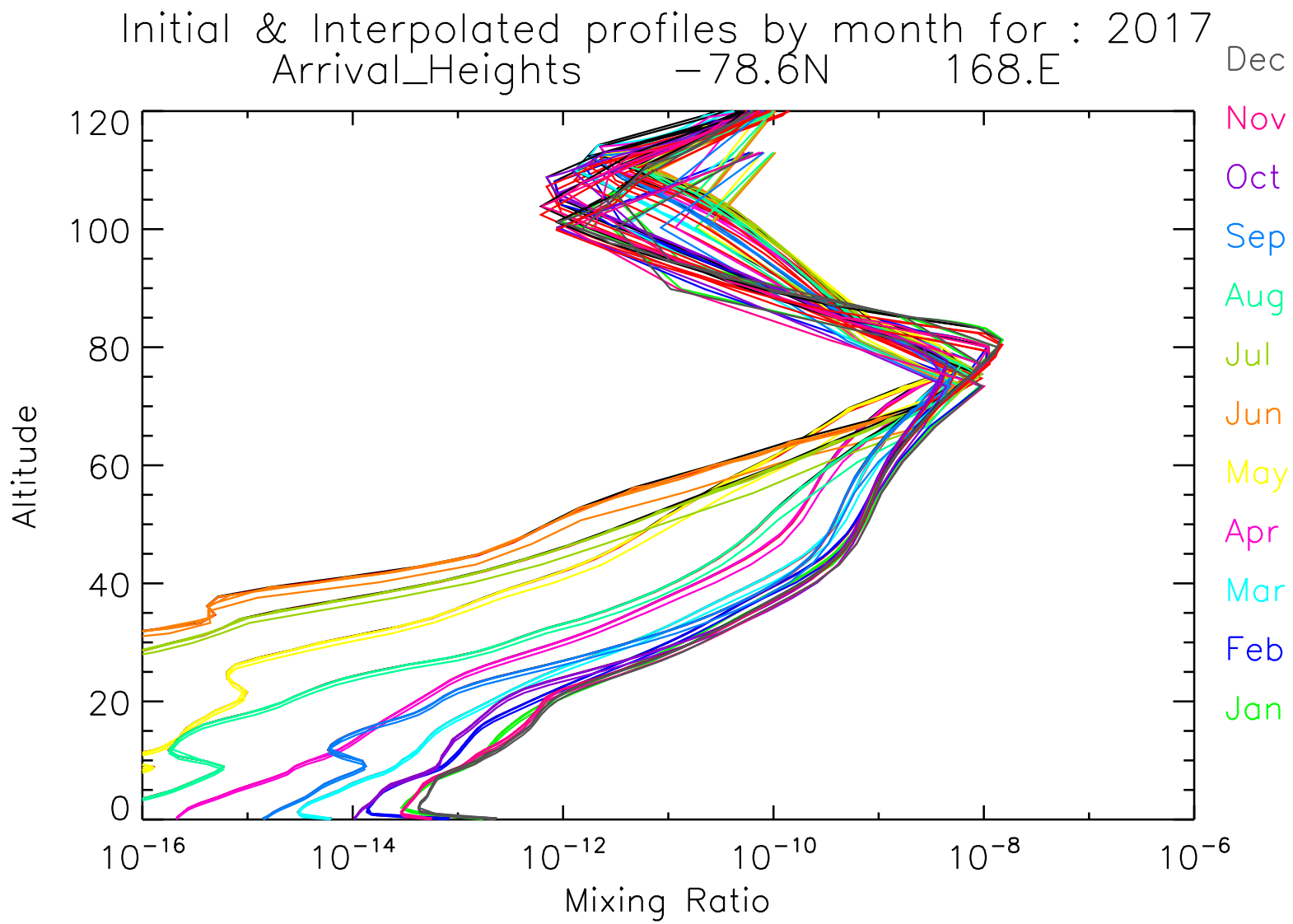

Initial & Interpolated profiles by month for : 2012
Arrival_Heights −78.6N 168.E
Dec
Feb
Jan
Altitude
Mixing Ratio
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}

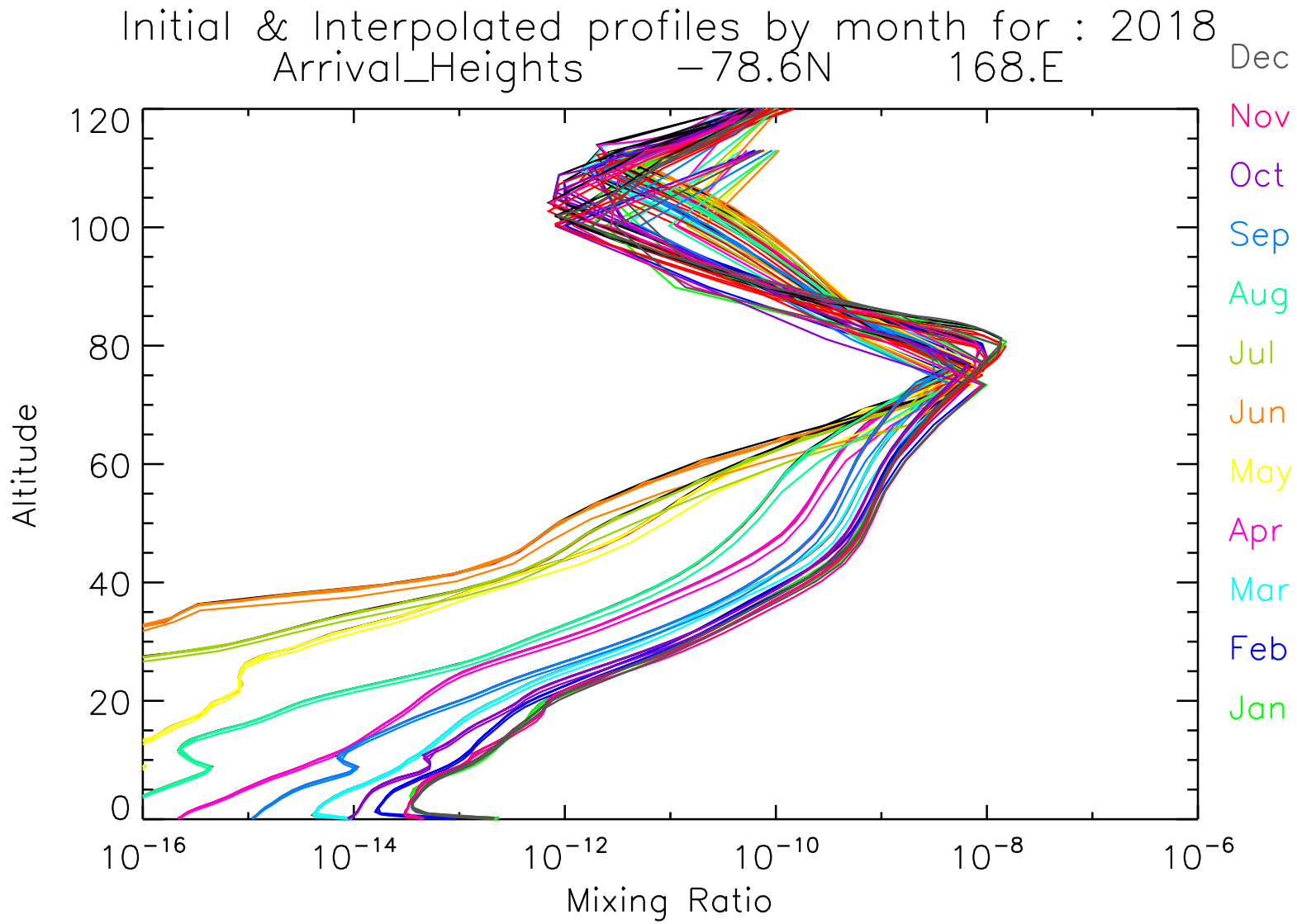

Initial & Interpolated profiles by month for : 2013
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio

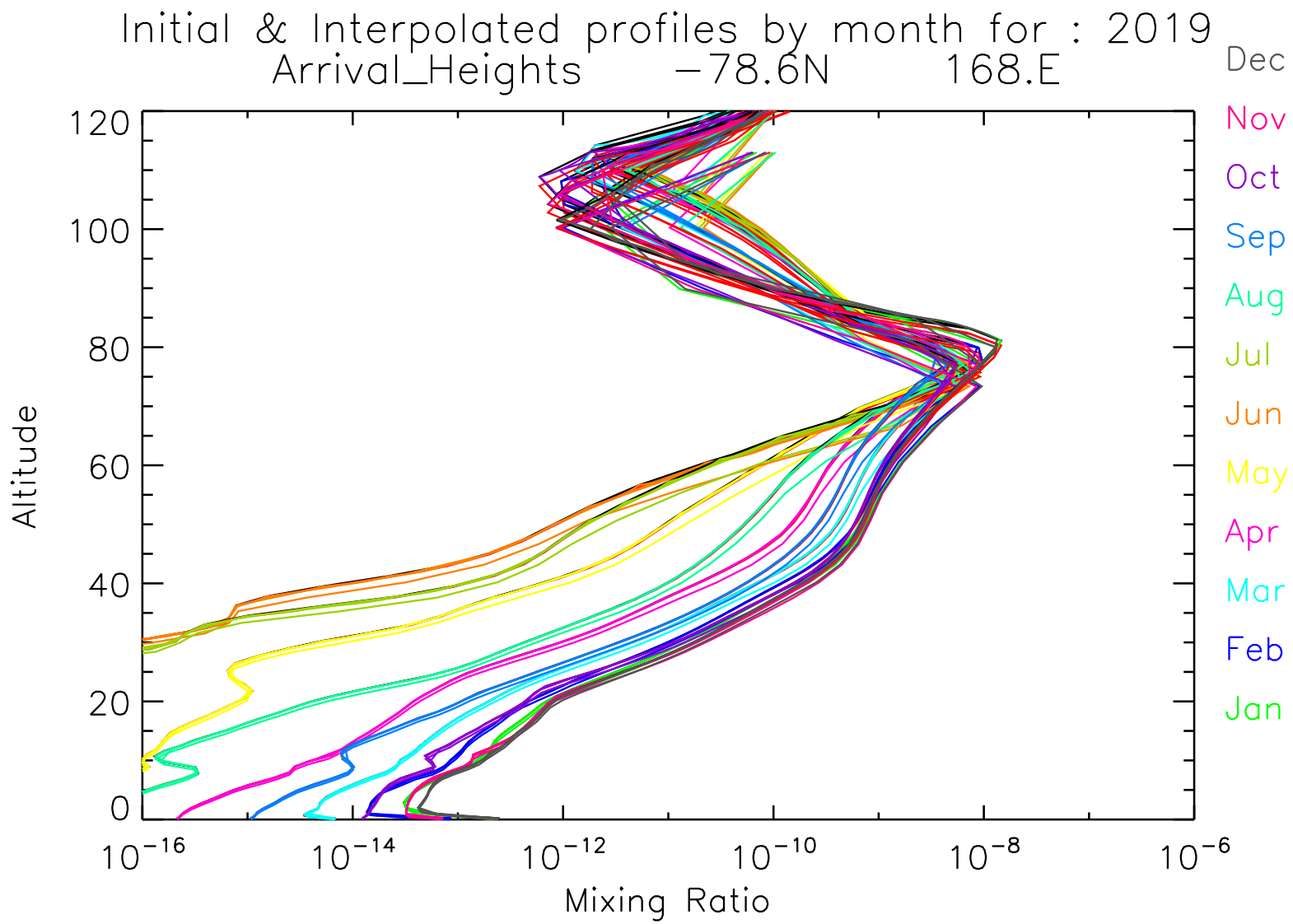

Initial & Interpolated profiles by month for : 2014
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio

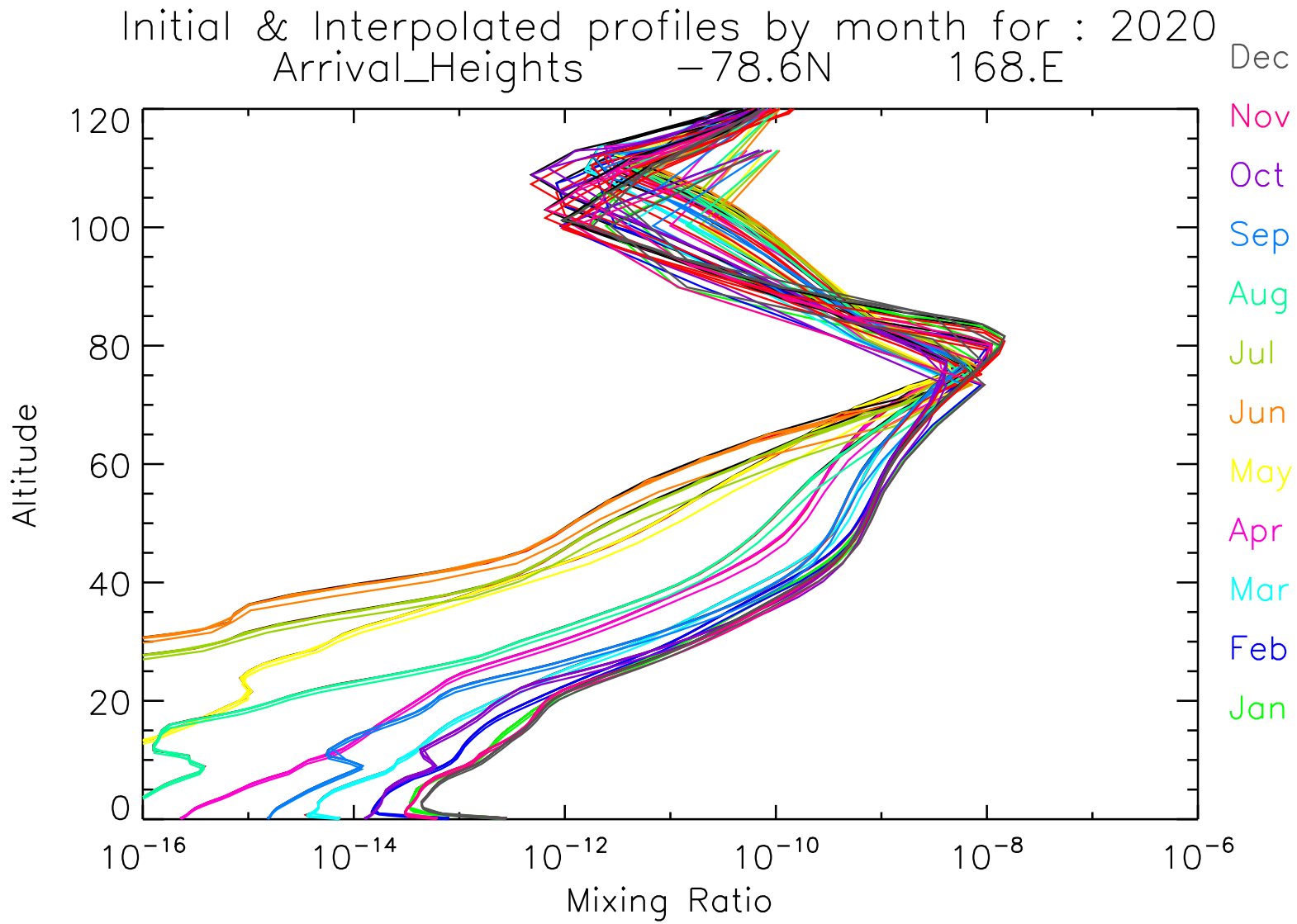

Initial & Interpolated profiles by month for : 2015
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio

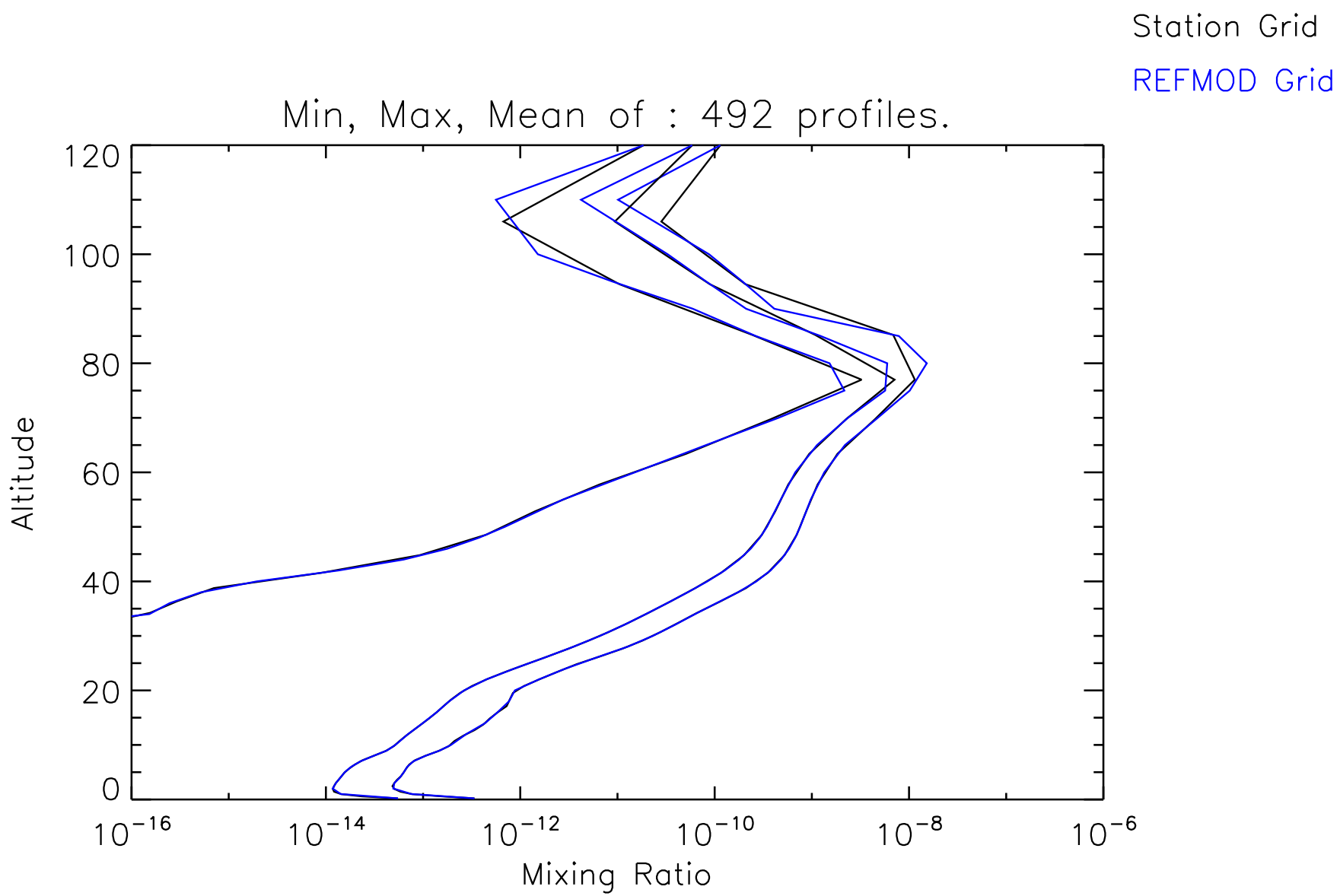

Initial & Interpolated profiles by month for : 2016
Arrival_Heights −78.6N 168.E
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan

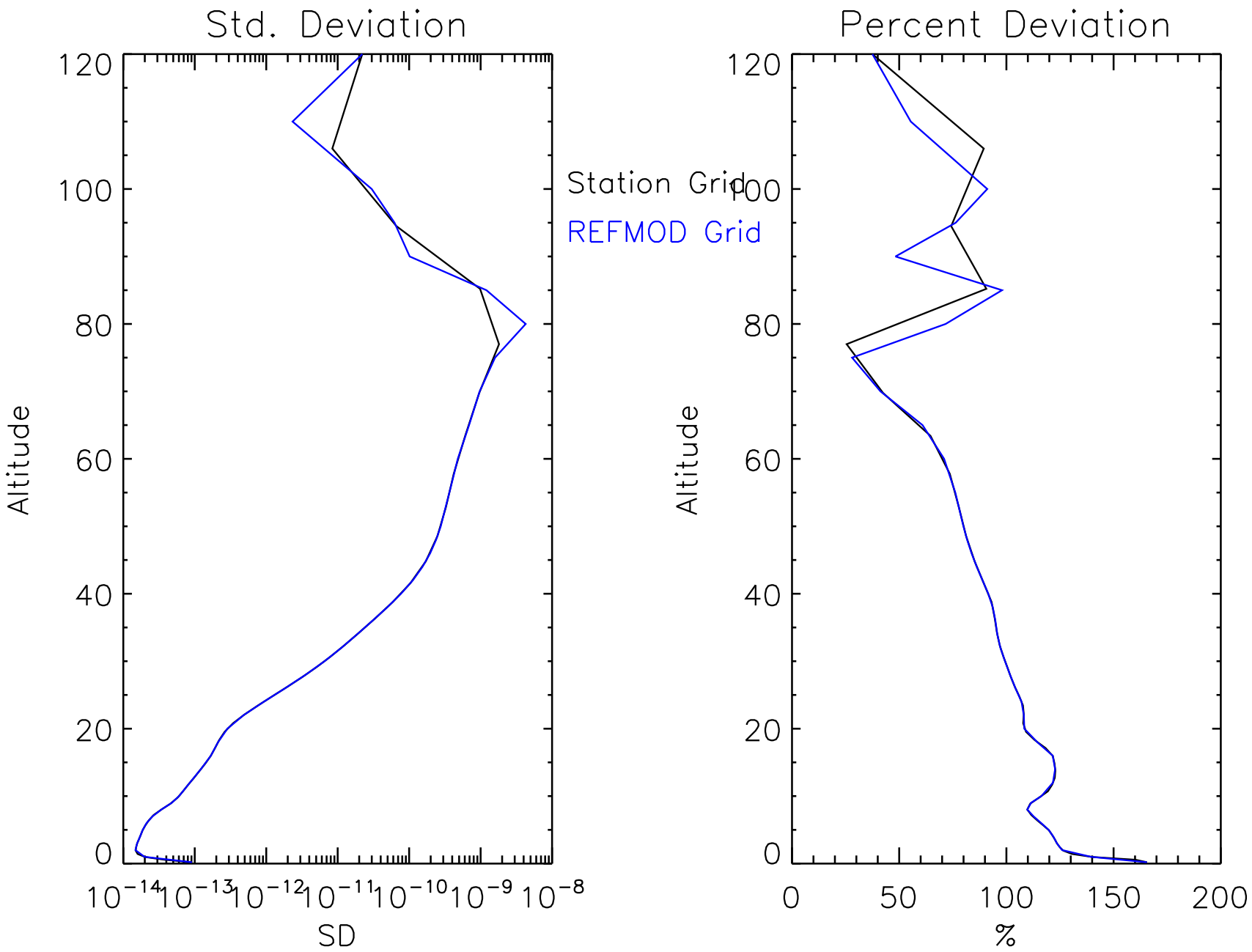

Initial & Interpolated profiles by month for : 2017
Arrival_Heights −78.6N 168.E
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan

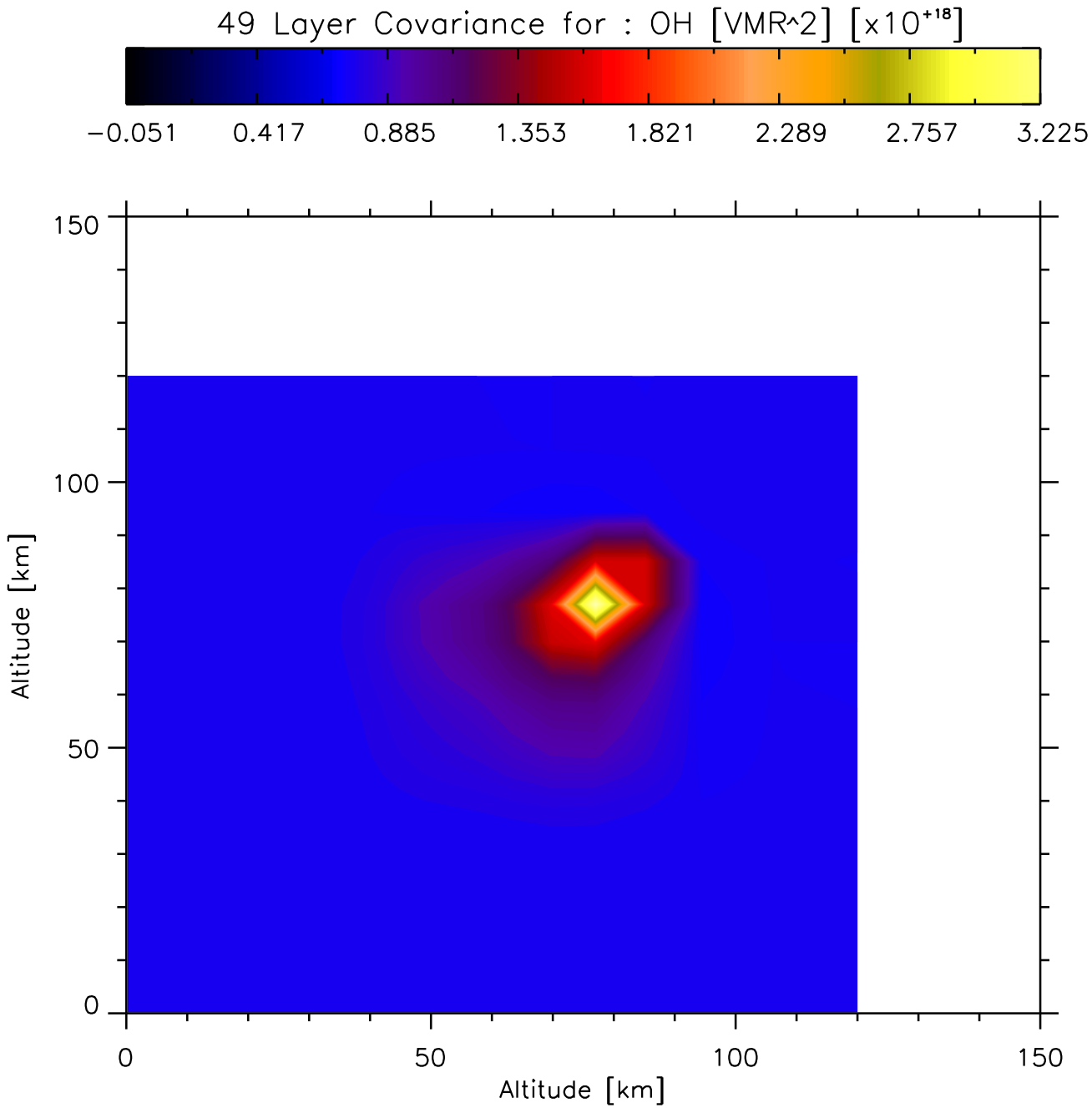

Initial & Interpolated profiles by month for : 2018
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio

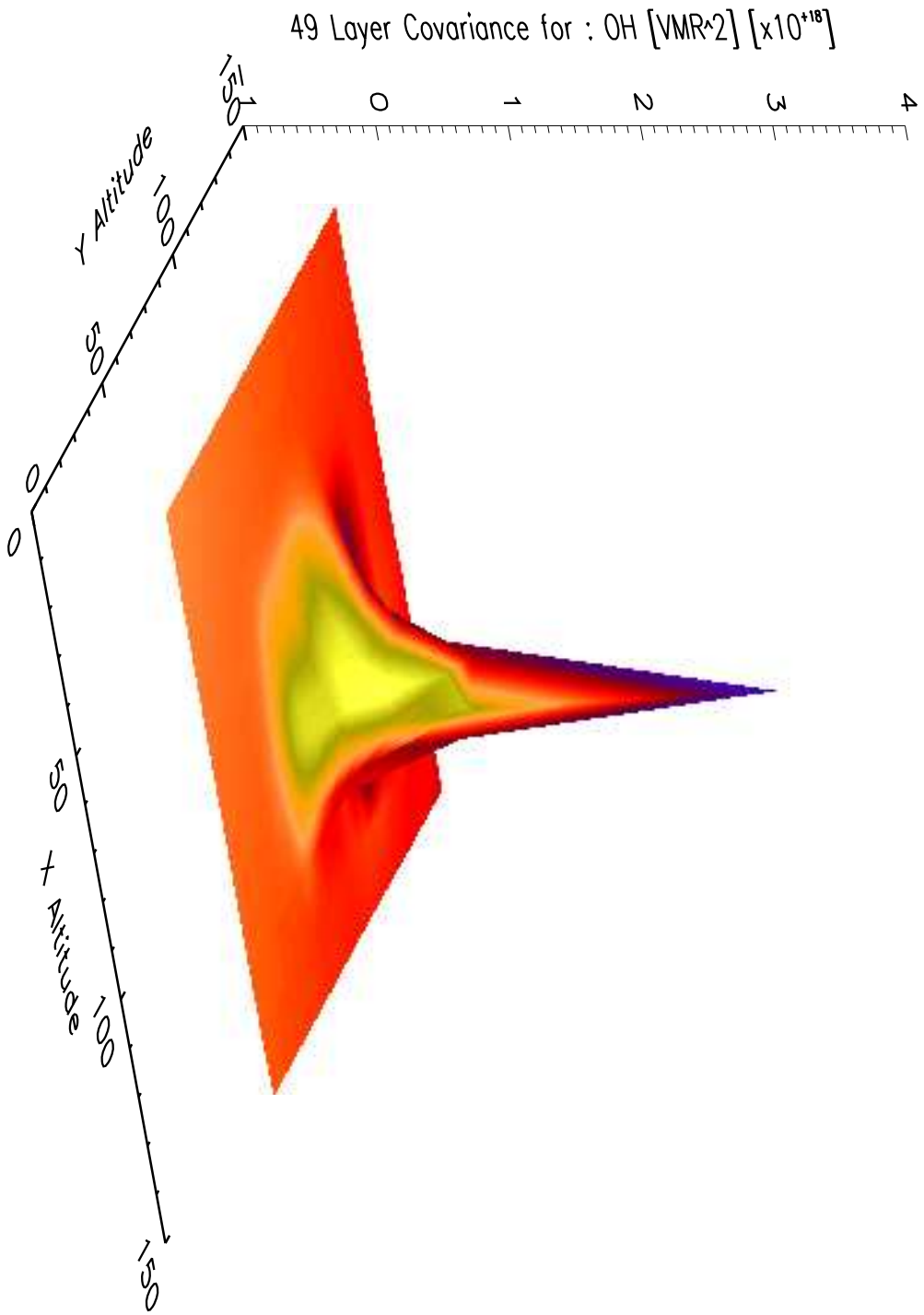

Initial & Interpolated profiles by month for : 2019
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio

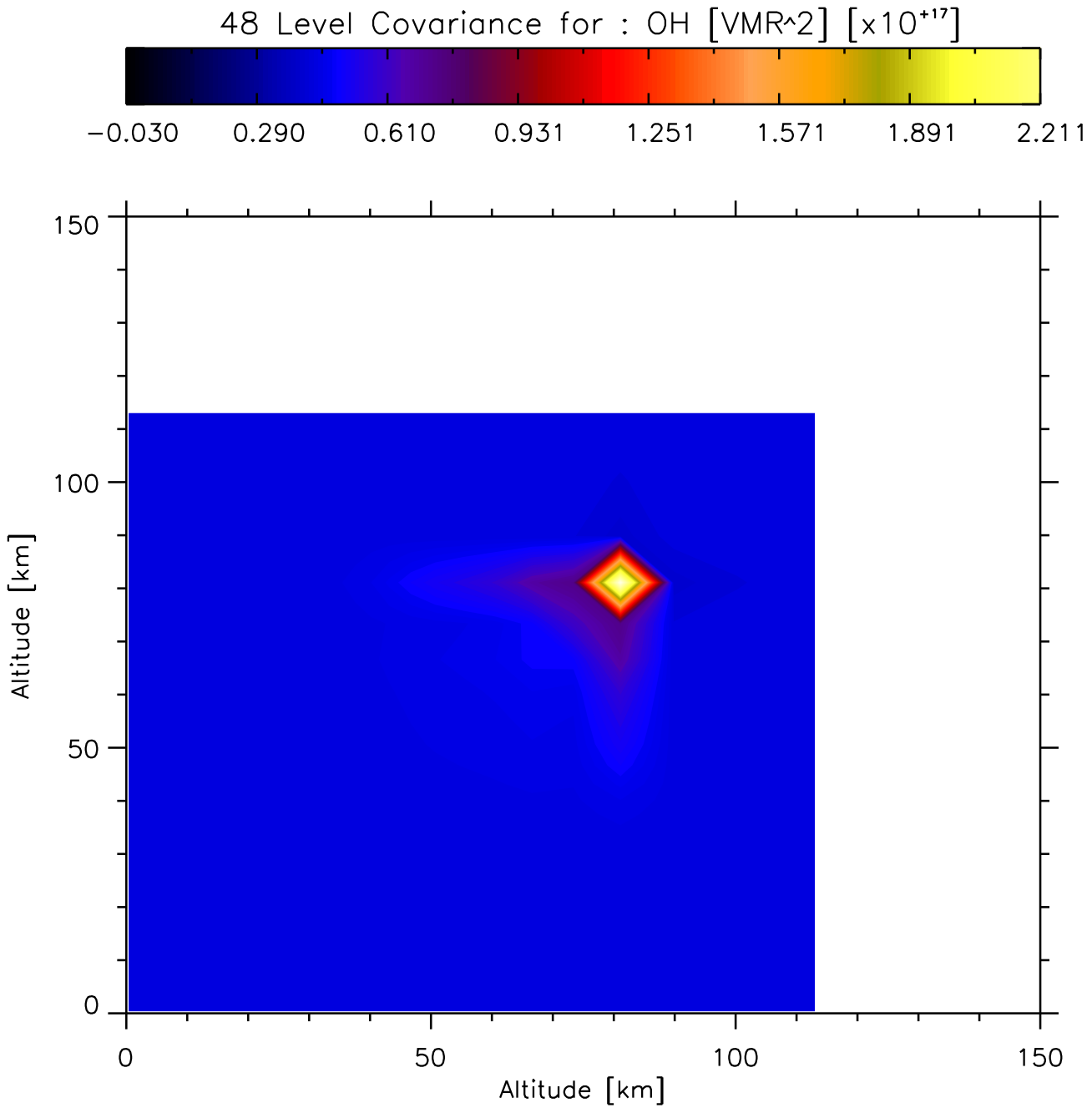

Initial & Interpolated profiles by month for : 2020
Arrival_Heights −78.6N 168.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
120
100
80
60
40
20
0
Altitude
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
Mixing Ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude
Altitude
120
100
80
60
40
20
0
10^{-14} 10^{-13} 10^{-12} 10^{-11} 10^{-10} 10^{-9} 10^{-8}
SD
0
50
100
150
200
%


49 Layer Covariance for : OH [VMR^2] [x10^+18]
−0.051
0.417
0.885
1.353
1.821
2.289
2.757
3.225
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


49 Layer Covariance for : OH [VMR^2] [x10^+18]
0
1
2
3
4
Y Altitude
0
50
100
150
0
50
100
150
X Altitude


48 Level Covariance for : OH [VMR^2] [x10^+17]
−0.030
0.290
0.610
0.931
1.251
1.571
1.891
2.211
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

48 Level Covariance for : OH [VMR^2] [x10^+17]
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
Y Altitude
0
50
100
0
50
100
X Altitude