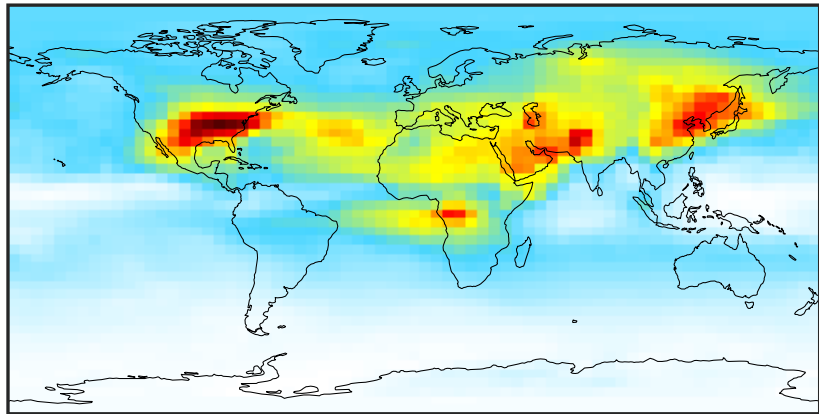


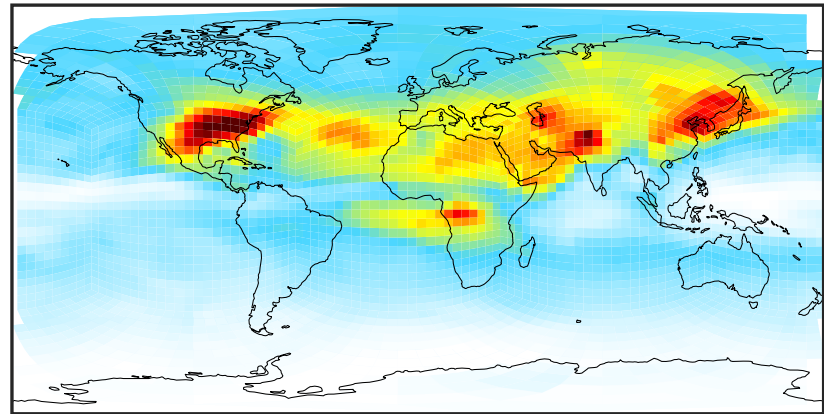
# SpeciesConcVV\_NOy (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



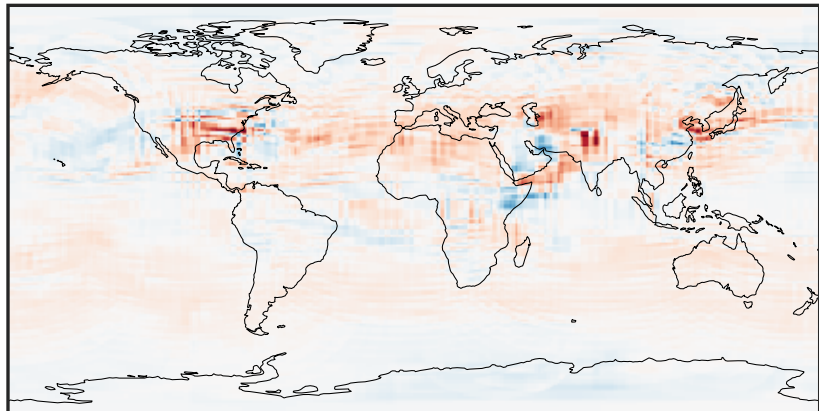
0.043 0.335 0.670 1.005 1.383  
ppb

GCHP\_14.2.0 (Dev)  
c24



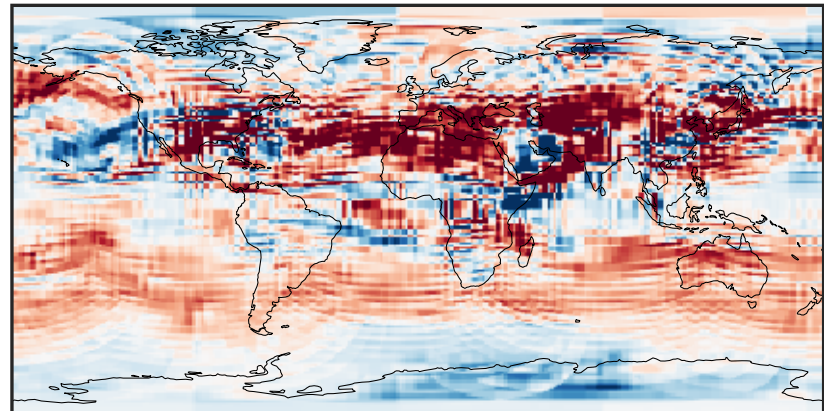
0.043 0.335 0.670 1.005 1.383  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



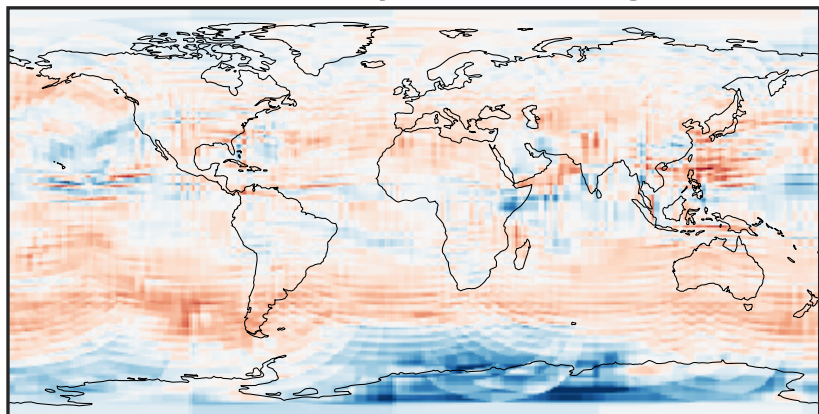
-0.3365 -0.1683 0.0000 0.1683 0.3365  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



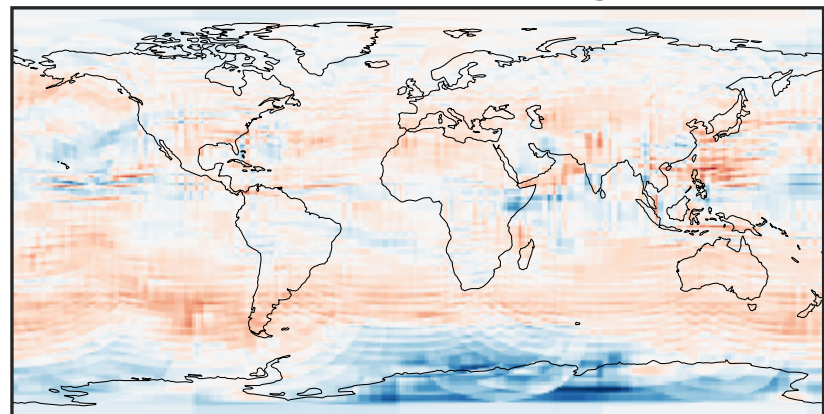
-0.0602 -0.0301 0.0000 0.0301 0.0602  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.559 0.780 1.000 1.394 1.788  
unitless

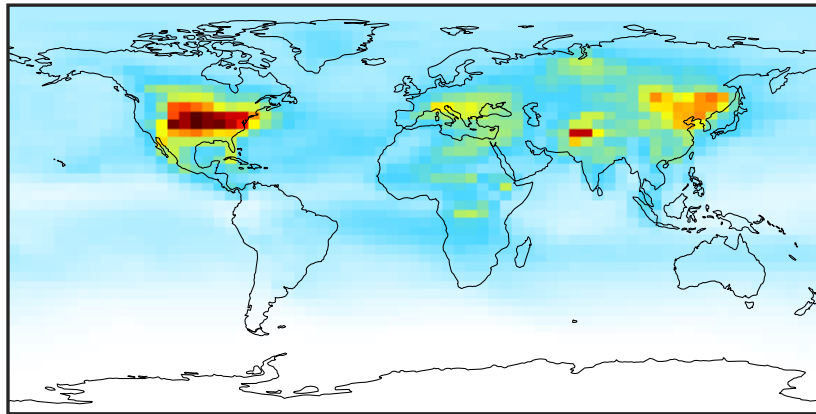
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

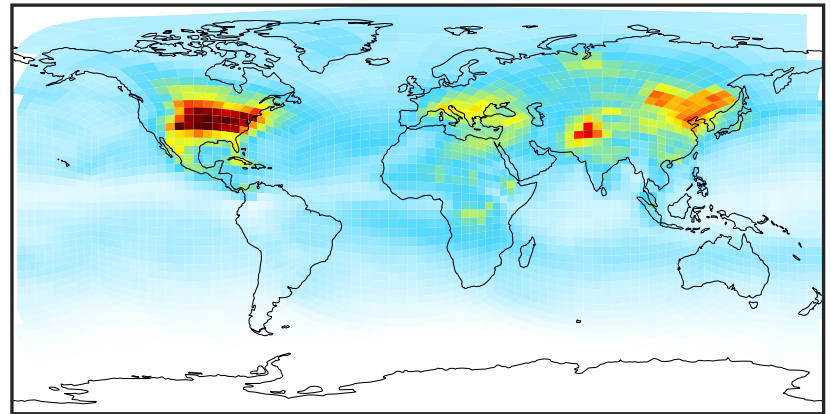
# SpeciesConcVV\_NOx (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



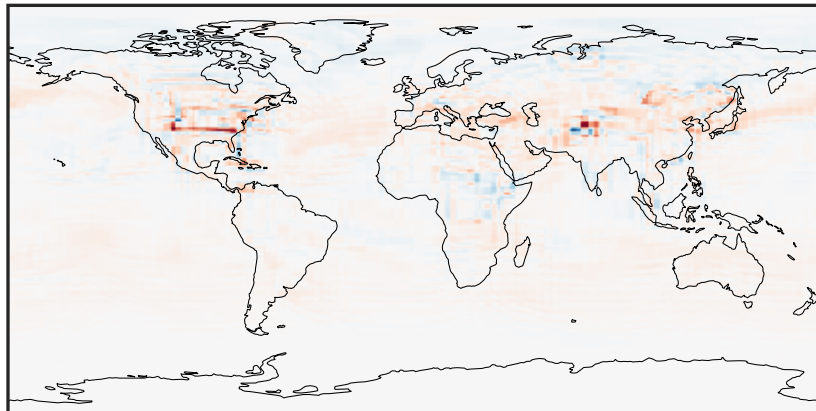
0.0002 0.0691 0.1382 0.2074 0.2767  
ppb

GCHP\_14.2.0 (Dev)  
c24



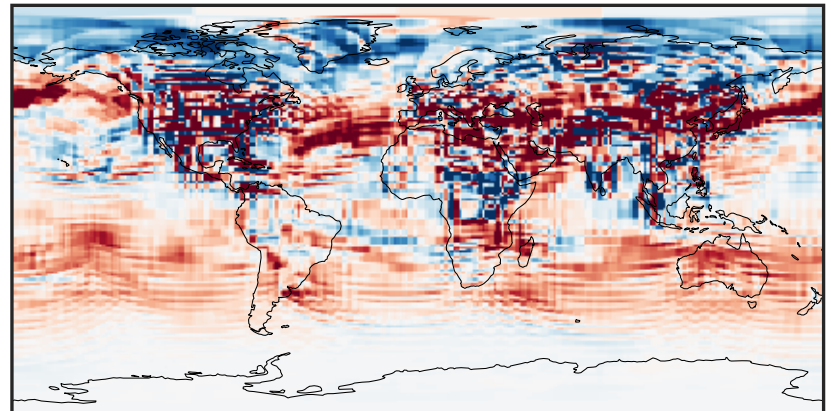
0.0002 0.0691 0.1382 0.2074 0.2767  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



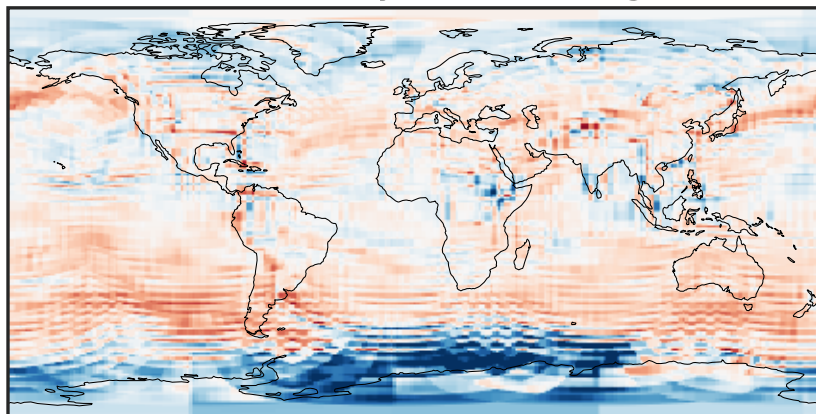
-0.1023 -0.0512 0.0000 0.0512 0.1023  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



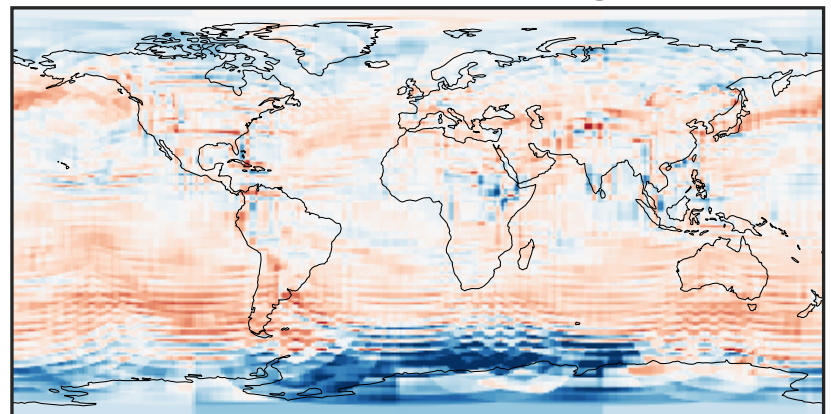
-0.005 0.000 0.005  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.525 0.762 1.000 1.453 1.905  
unitless

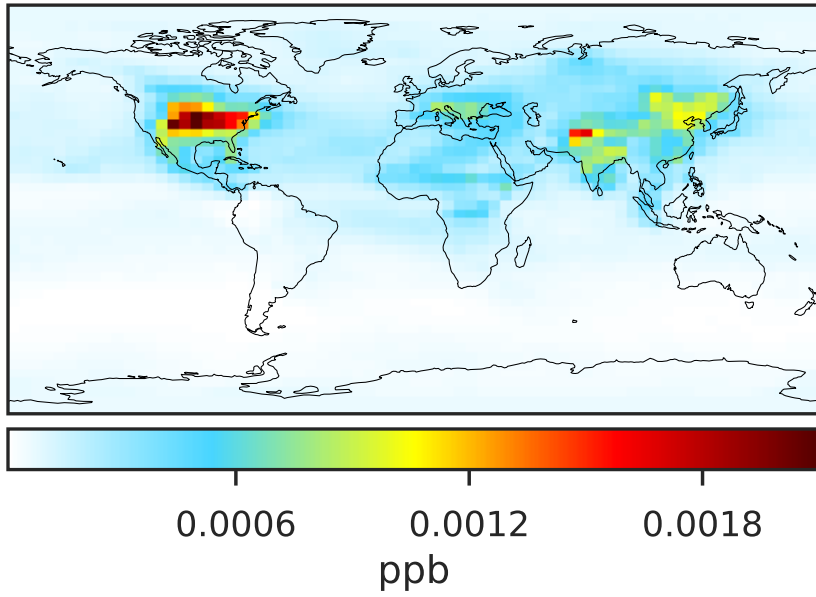
Ratio (1x1.25)  
Dev/Ref, Fixed Range



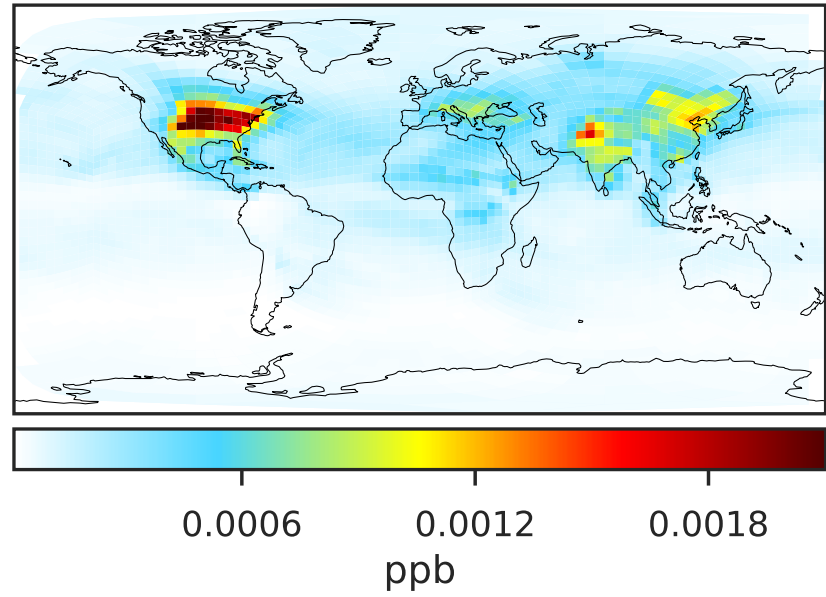
0.50 0.75 1.00 1.50 2.00  
unitless

# SpeciesConcVV\_HNO2 (Jul2019)

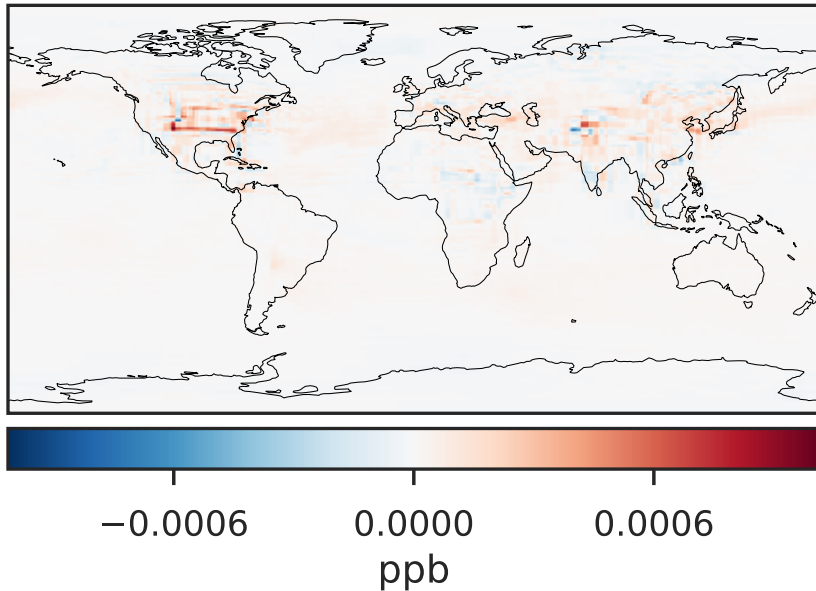
GCC\_14.2.0 (Ref)  
4.0x5.0



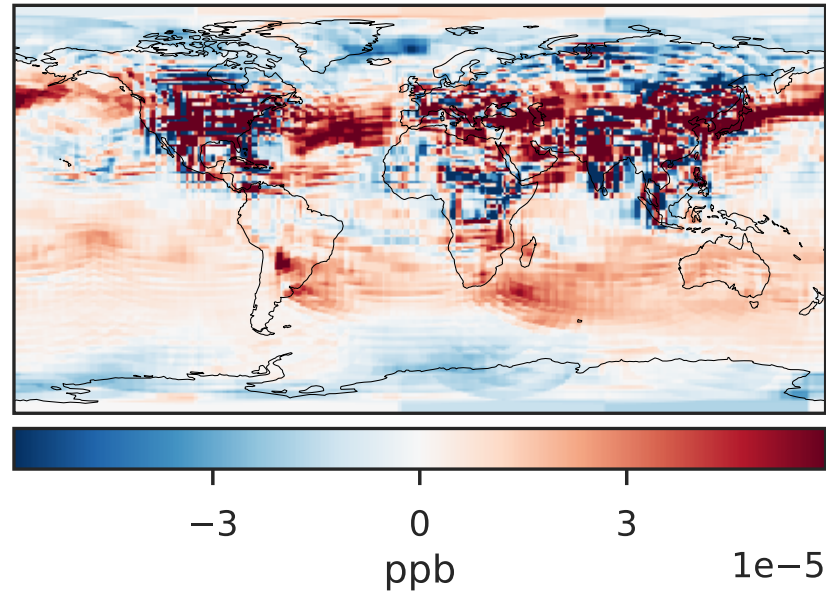
GCHP\_14.2.0 (Dev)  
c24



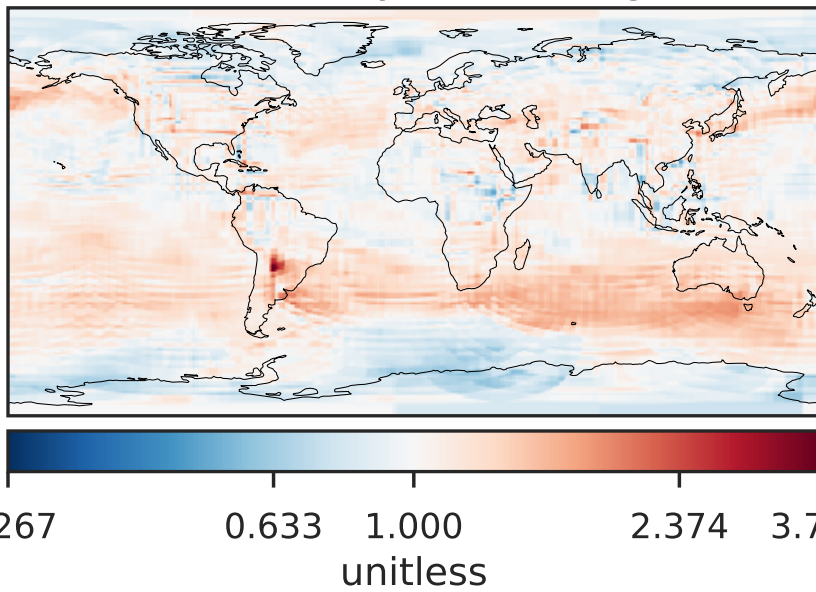
Difference (1x1.25)  
Dev - Ref, Dynamic Range



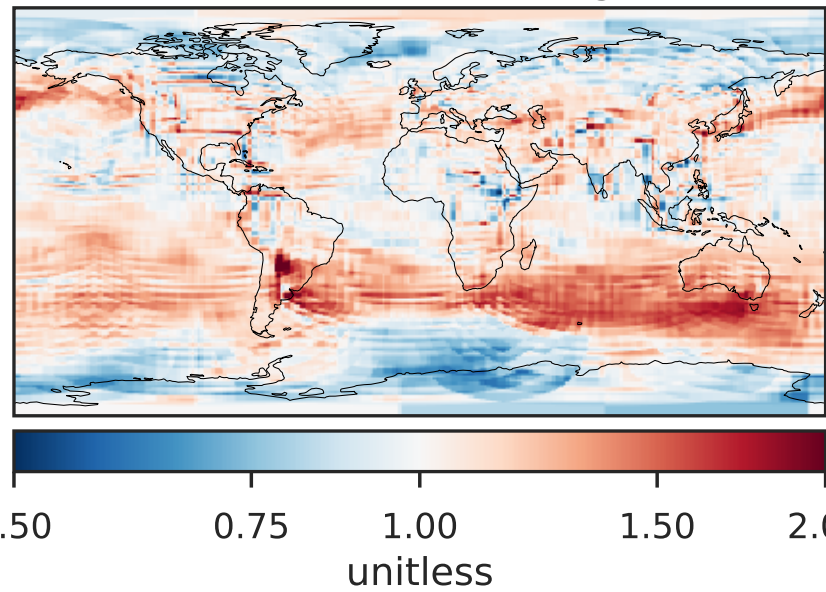
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

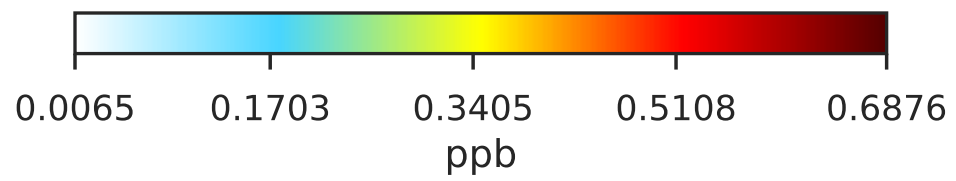
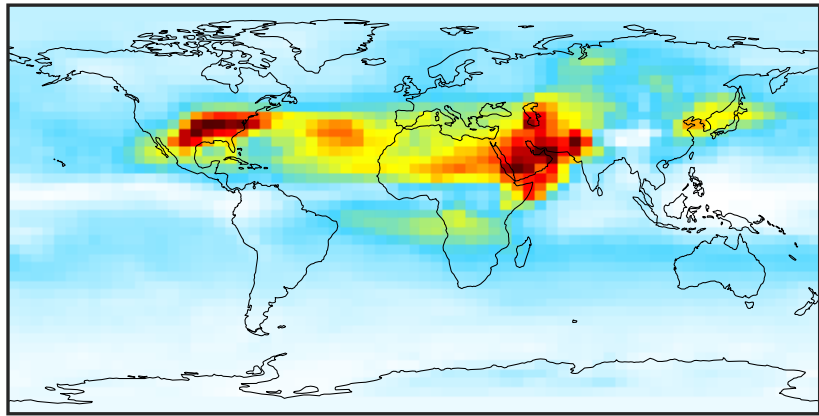


Ratio (1x1.25)  
Dev/Ref, Fixed Range

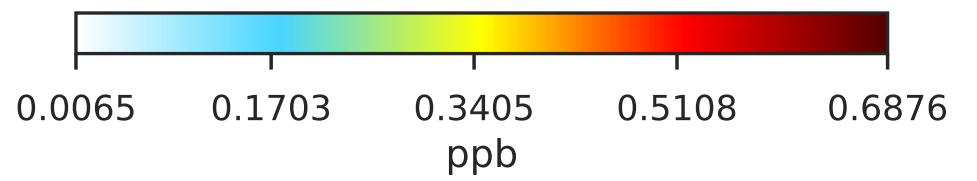
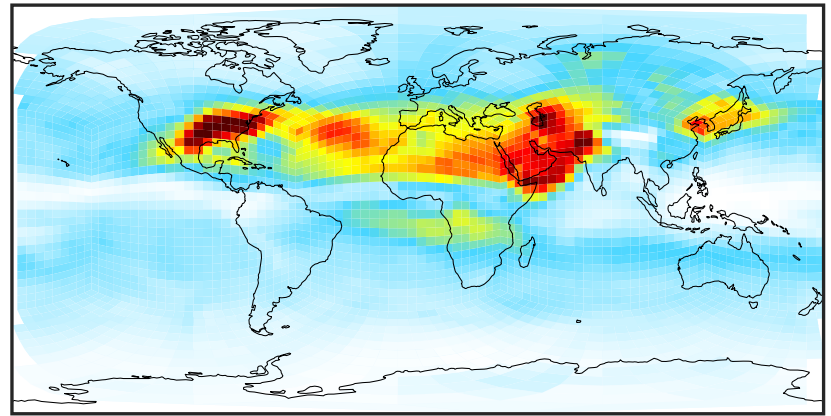


# SpeciesConcVV\_HNO3 (Jul2019)

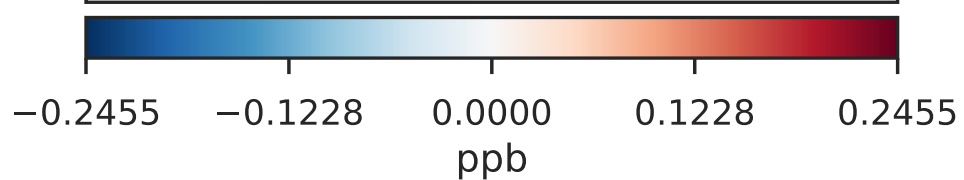
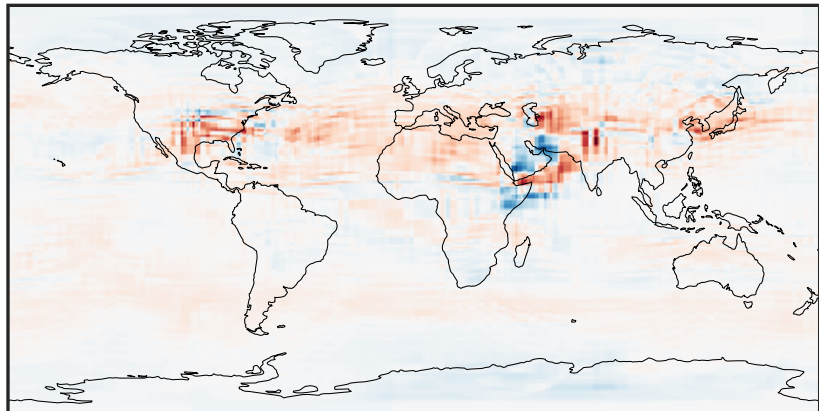
GCC\_14.2.0 (Ref)  
4.0x5.0



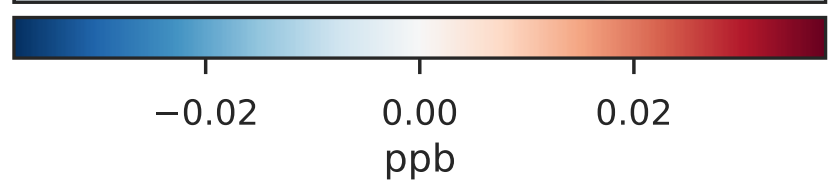
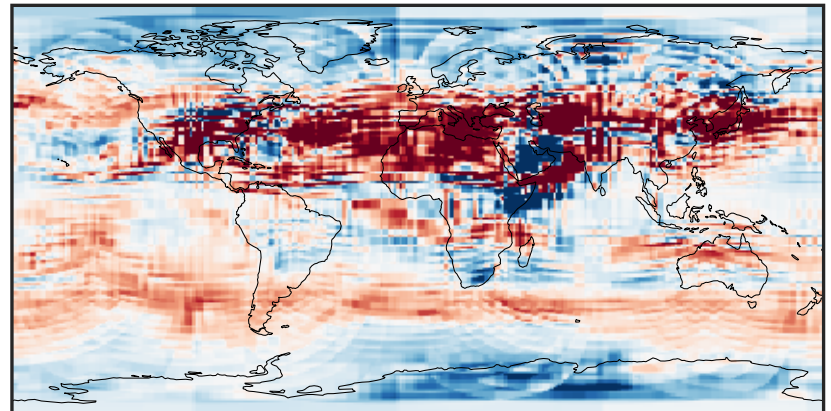
GCHP\_14.2.0 (Dev)  
c24



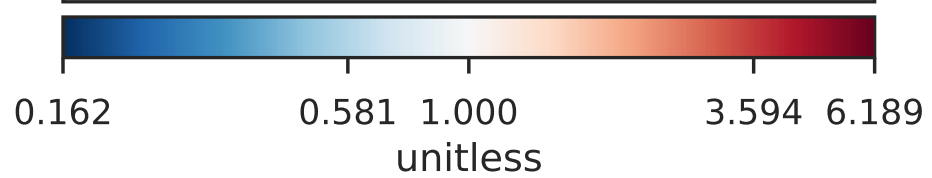
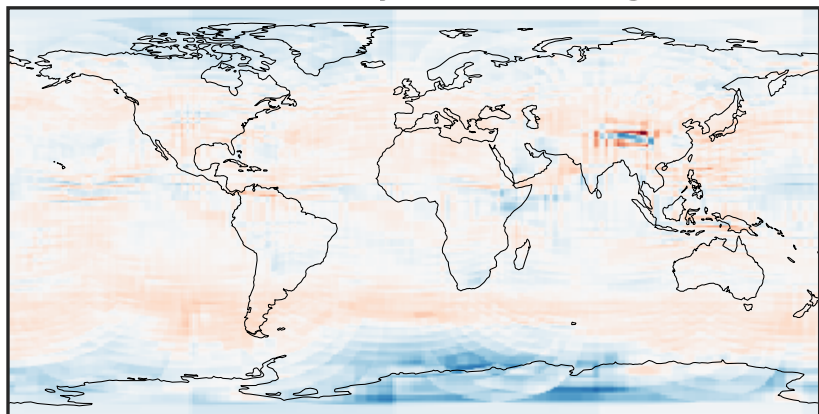
Difference (1x1.25)  
Dev - Ref, Dynamic Range



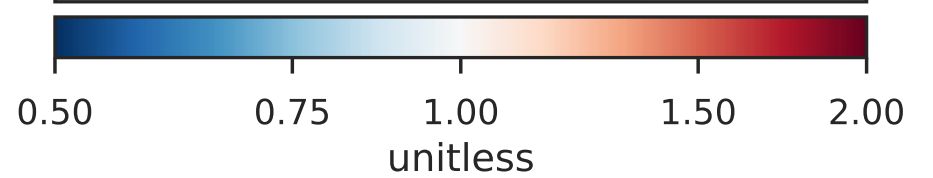
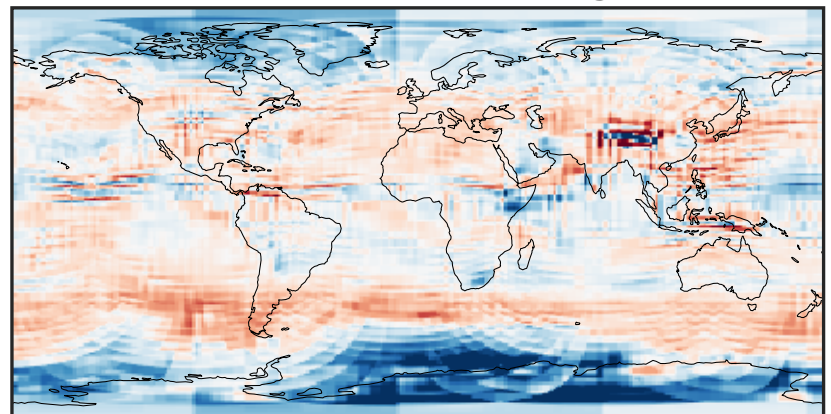
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

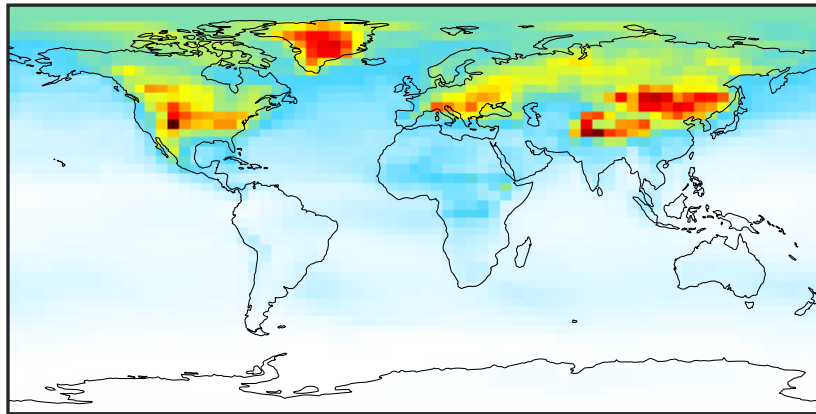


Ratio (1x1.25)  
Dev/Ref, Fixed Range



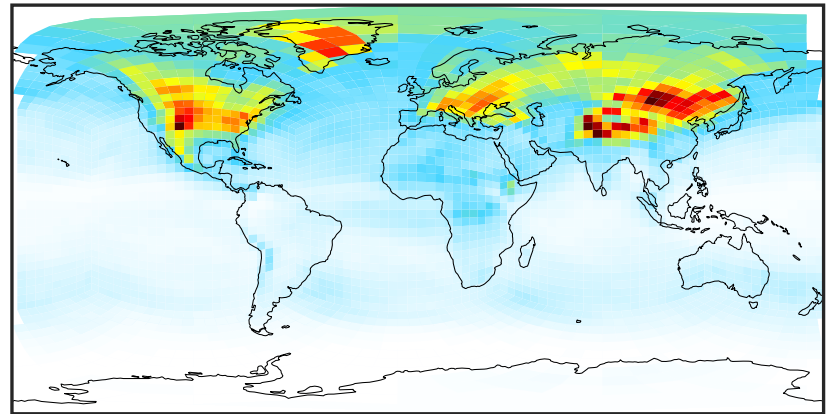
# SpeciesConcVV\_HNO4 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



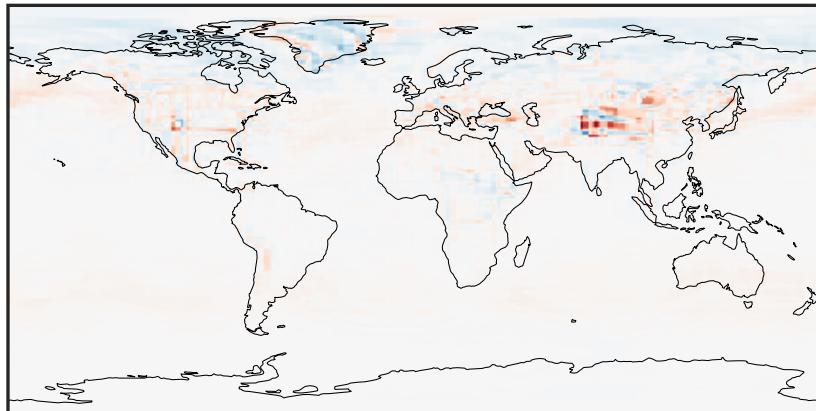
0.008 0.016 0.024  
ppb

GCHP\_14.2.0 (Dev)  
c24



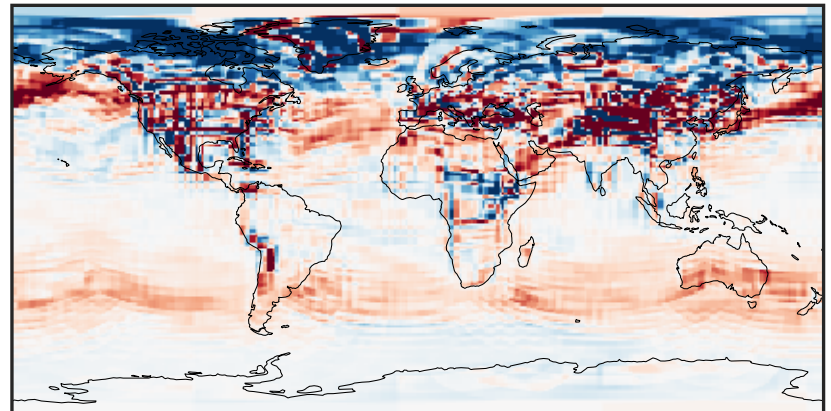
0.008 0.016 0.024  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



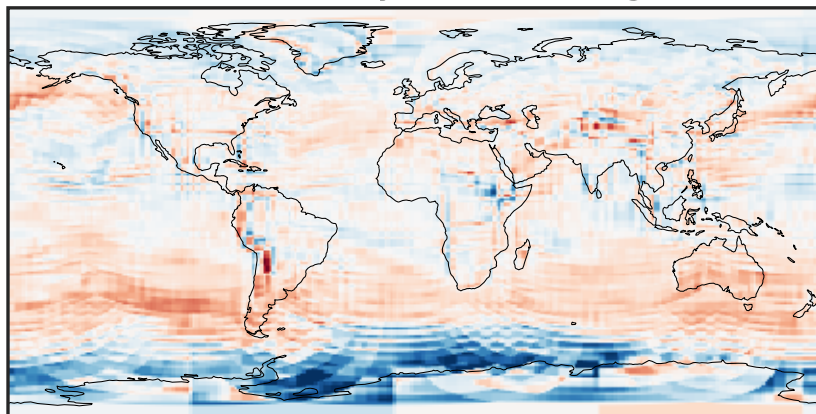
-0.01 0.00 0.01  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



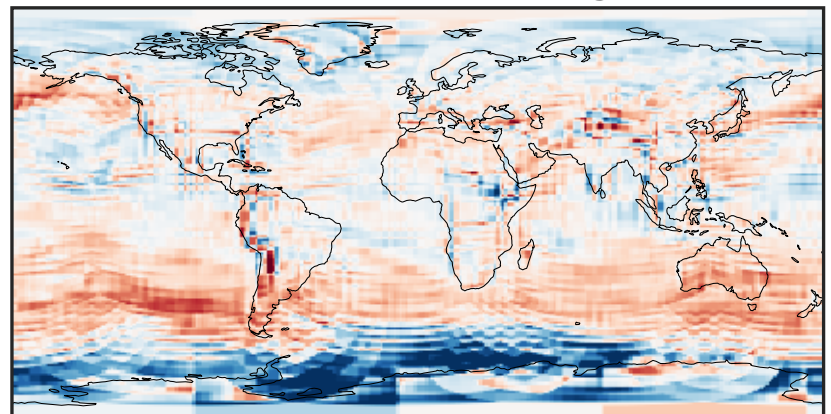
-0.0008 0.0000 0.0008  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.387 0.694 1.000 1.792 2.584  
unitless

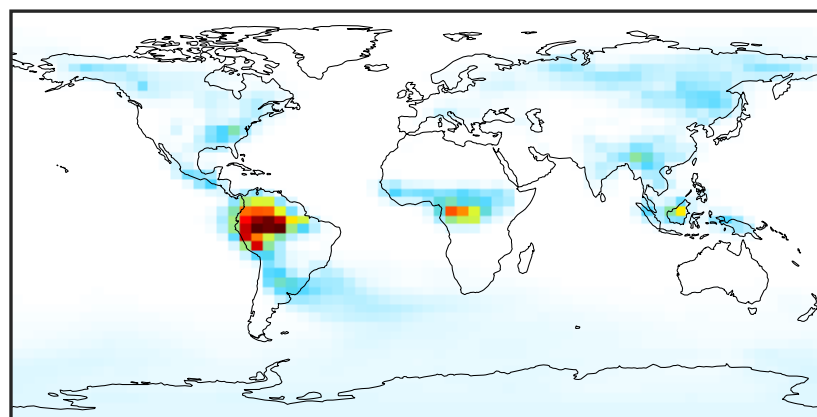
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

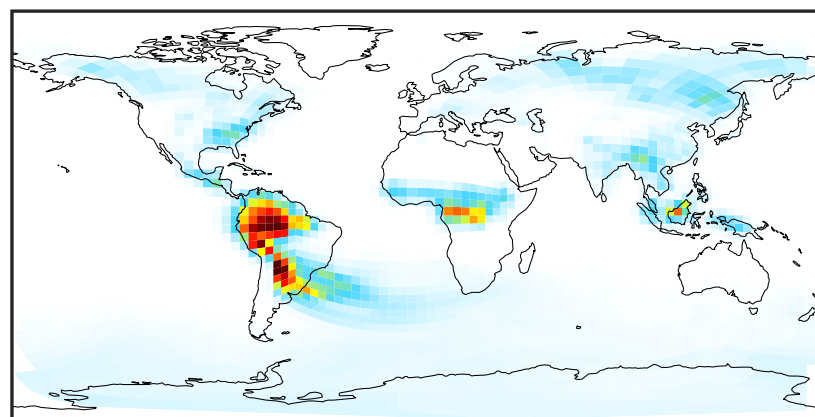
# SpeciesConcVV\_MPAN (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



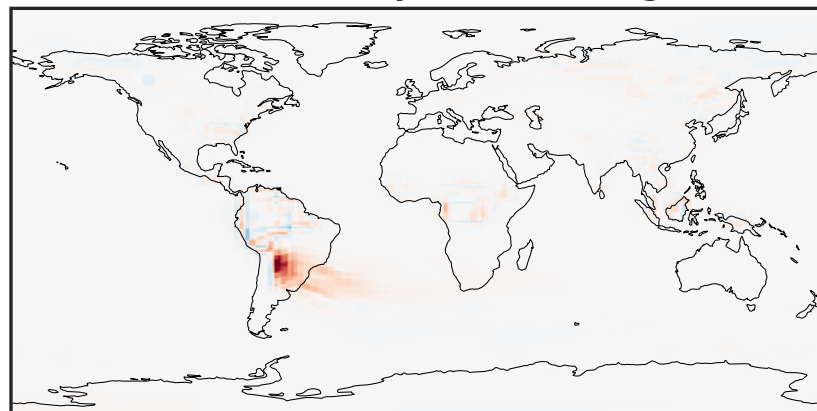
0.0006 0.0012 0.0018  
ppb

GCHP\_14.2.0 (Dev)  
c24



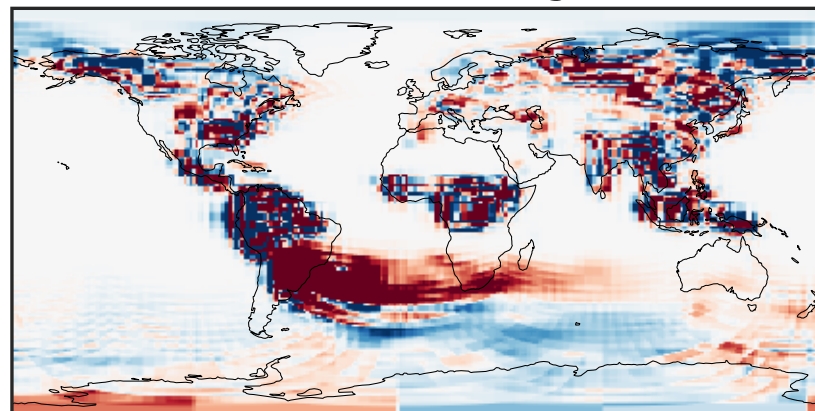
0.0006 0.0012 0.0018  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



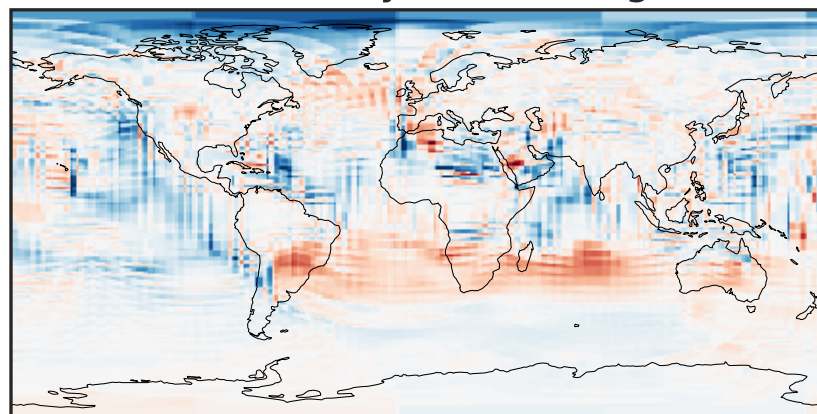
-0.0015 0.0000 0.0015  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



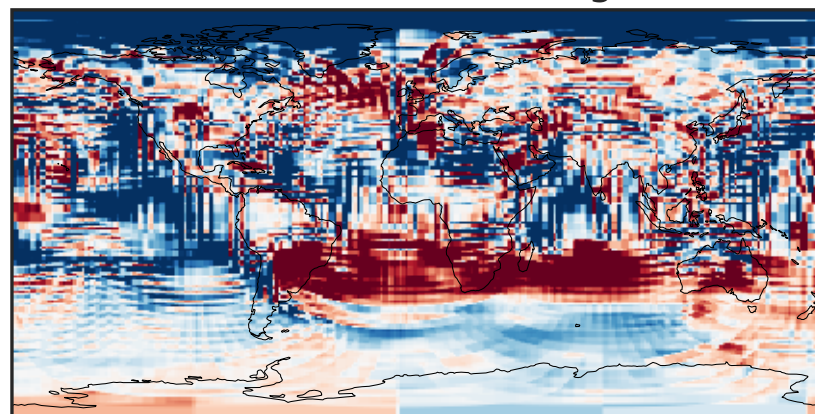
-2.5 0.0 2.5  
ppb  $1e-5$

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



$1e-01$  1 10  
unitless

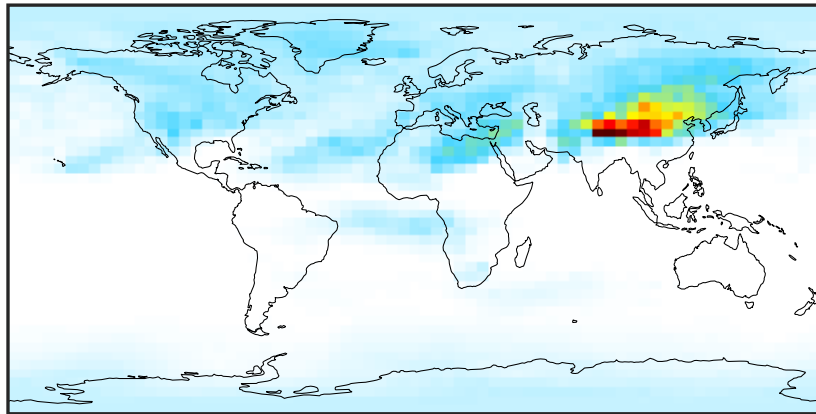
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

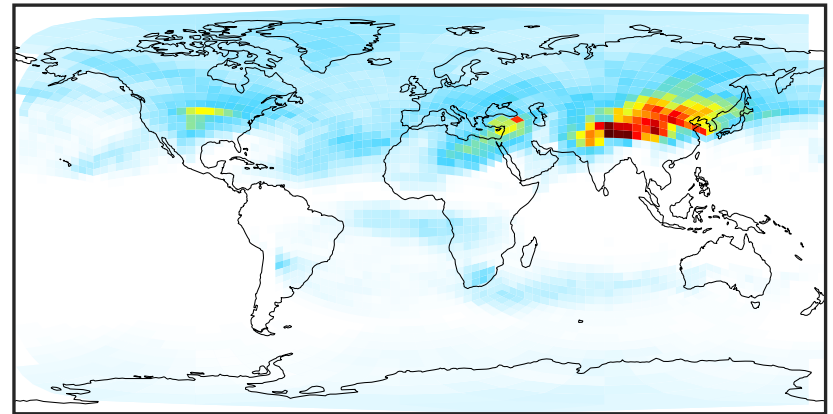
# SpeciesConcVV\_NIT (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



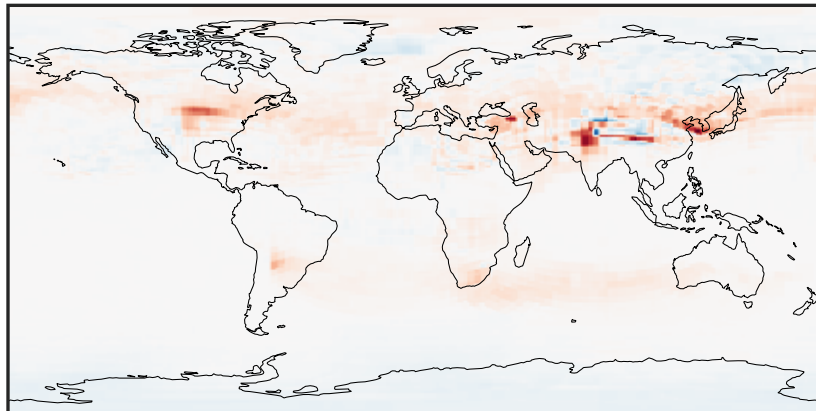
0.0000 0.0601 0.1203 0.1804 0.2406  
ppb

GCHP\_14.2.0 (Dev)  
c24



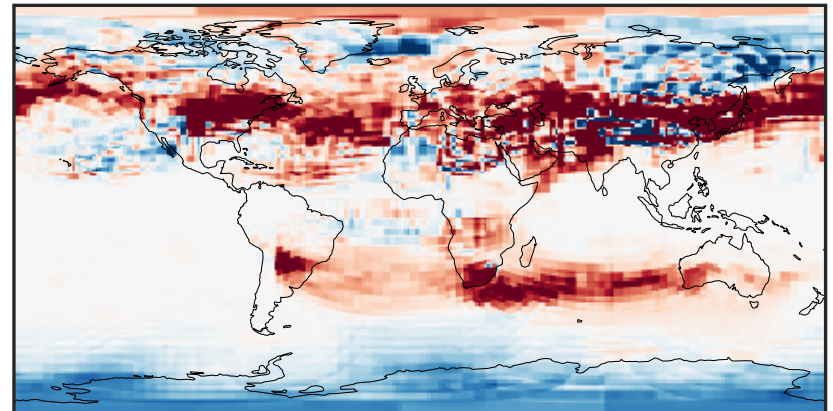
0.0000 0.0601 0.1203 0.1804 0.2406  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



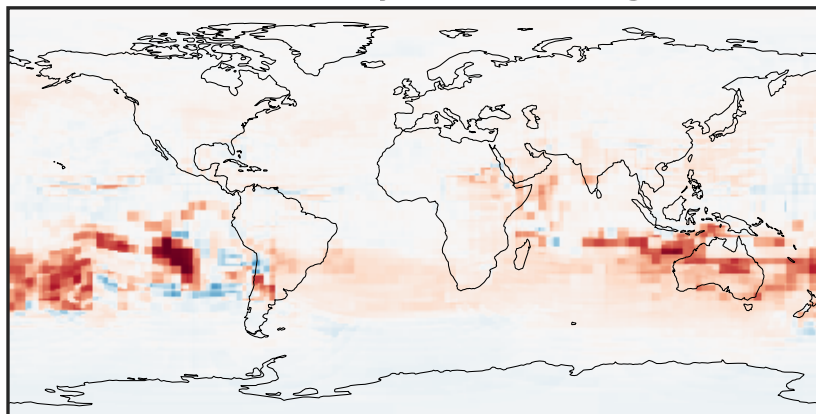
-0.1313 -0.0657 0.0000 0.0657 0.1313  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



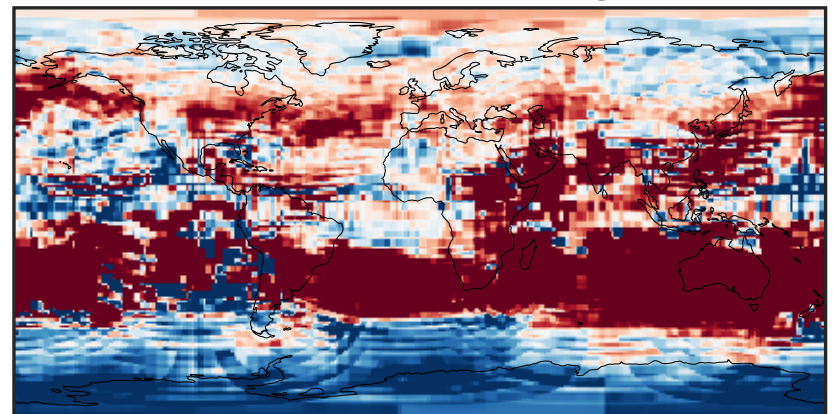
-0.008 0.000 0.008  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



unitless

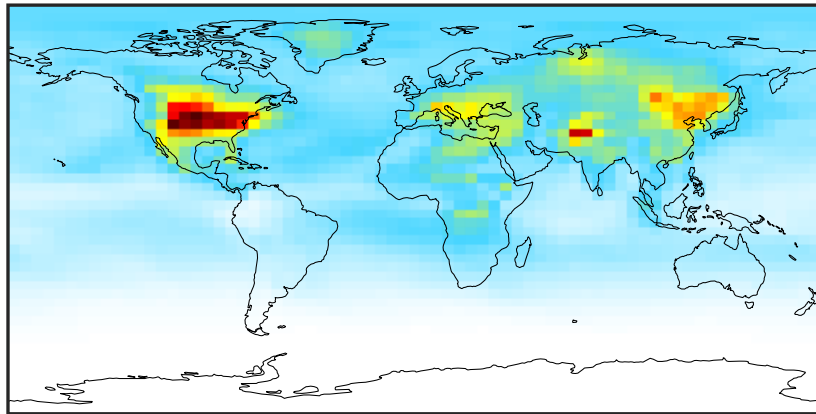
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

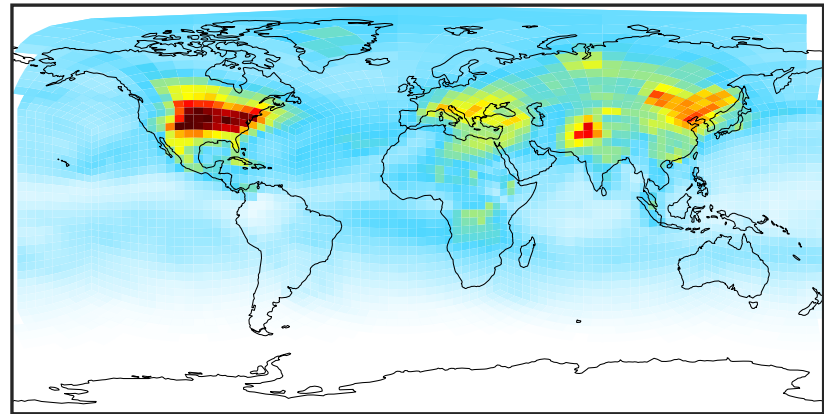
# SpeciesConcVV\_NO (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



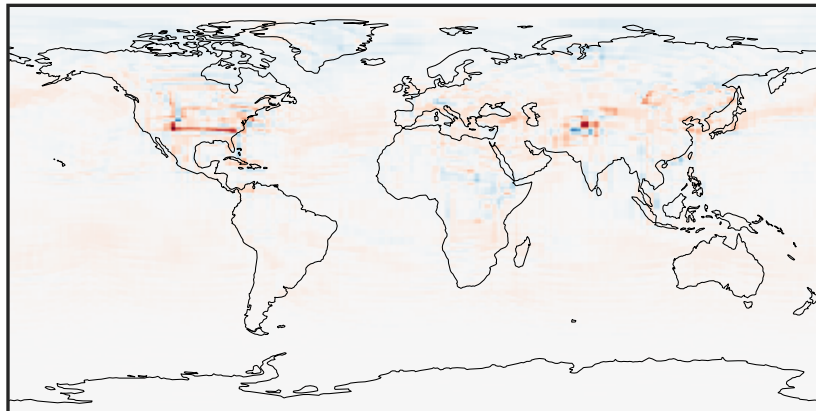
0.000 0.015 0.030 0.045  
ppb

GCHP\_14.2.0 (Dev)  
c24



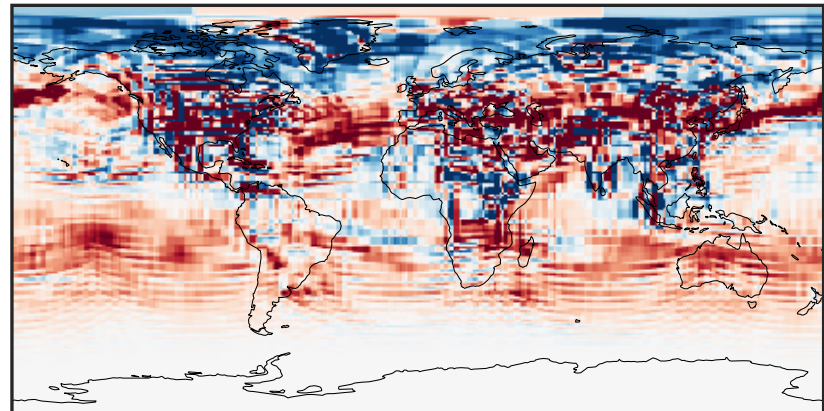
0.000 0.015 0.030 0.045  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



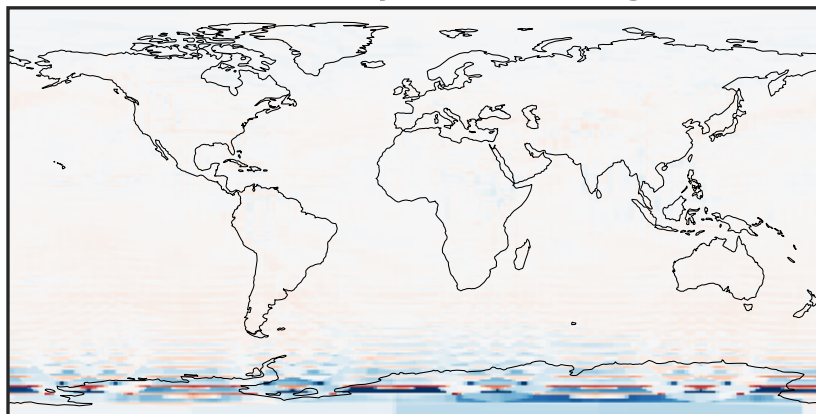
-0.015 0.000 0.015  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



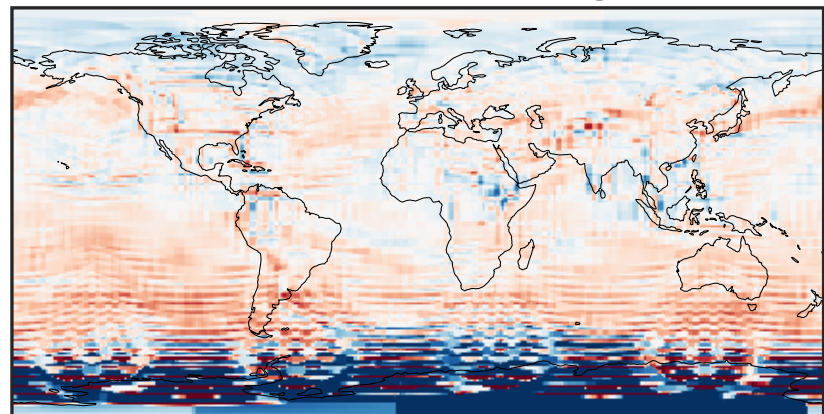
-0.0008 0.0000 0.0008  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



1e-02 1e-01 1 10 100  
unitless

Ratio (1x1.25)  
Dev/Ref, Fixed Range

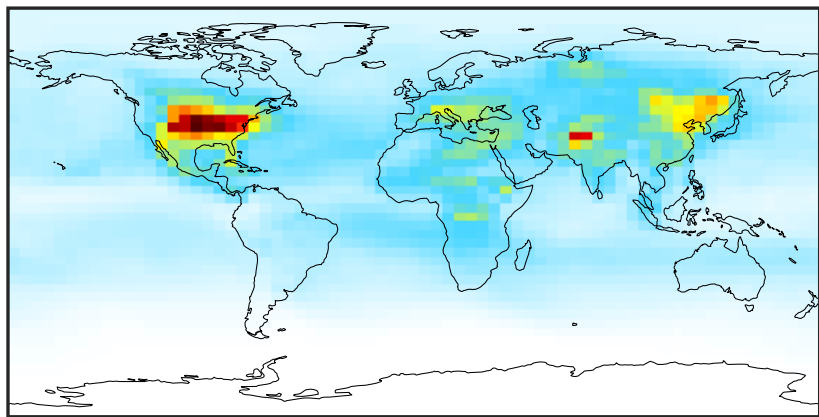


0.50 0.75 1.00 1.50 2.00  
unitless



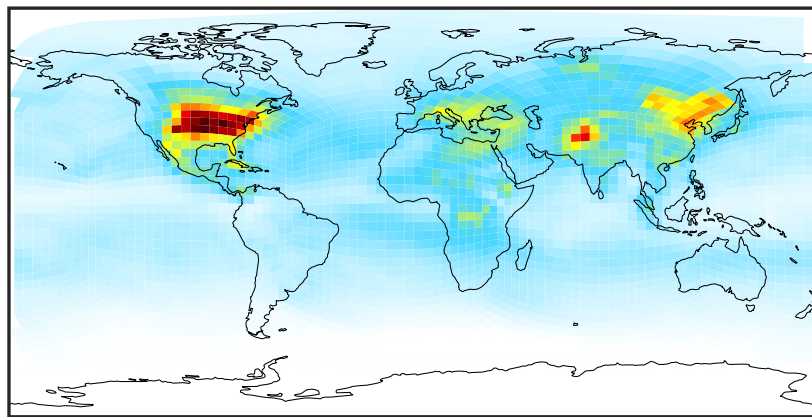
# SpeciesConcVV\_NO2 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



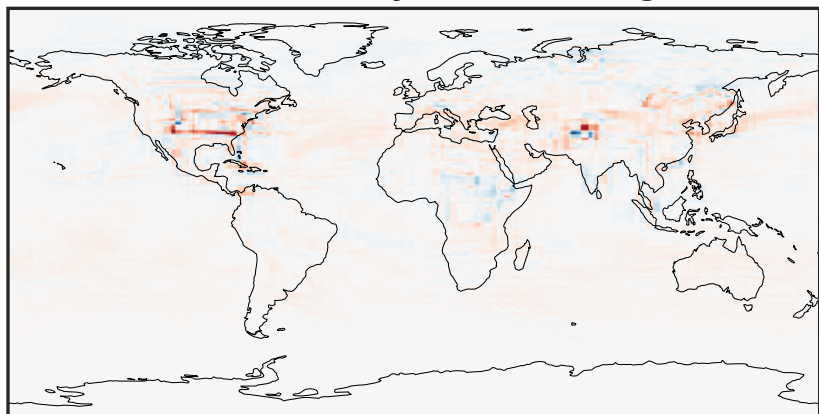
0.000 0.051 0.102 0.153 0.204  
ppb

GCHP\_14.2.0 (Dev)  
c24



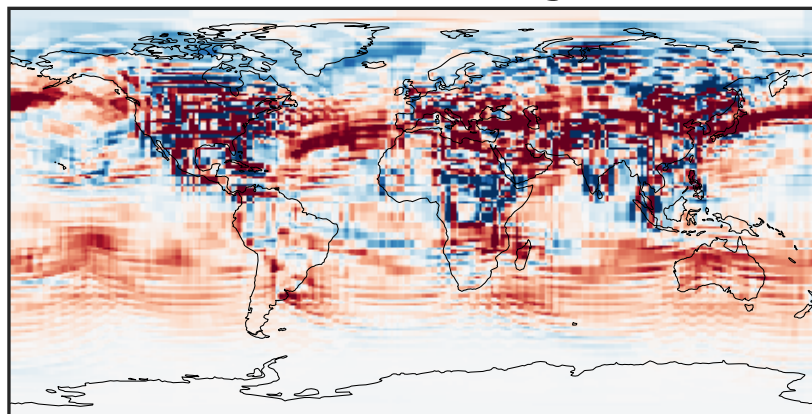
0.000 0.051 0.102 0.153 0.204  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



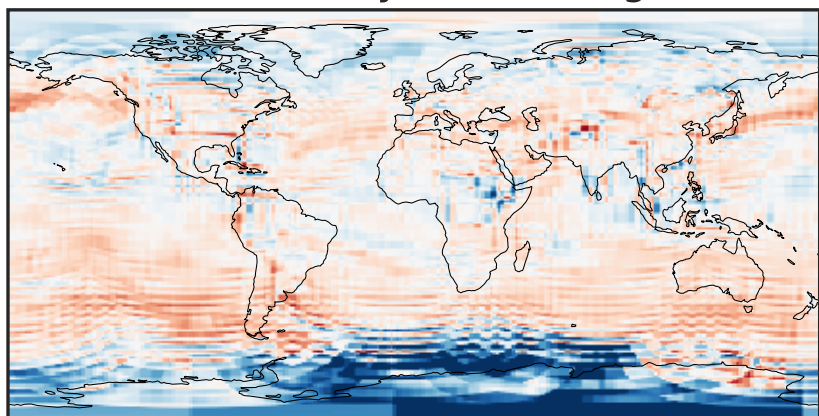
-0.0757 -0.0379 0.0000 0.0379 0.0757  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



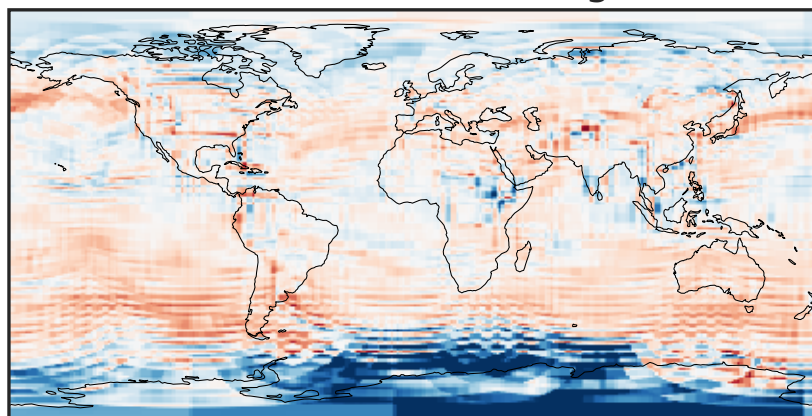
-0.003 0.000 0.003  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.493 0.746 1.000 1.514 2.029  
unitless

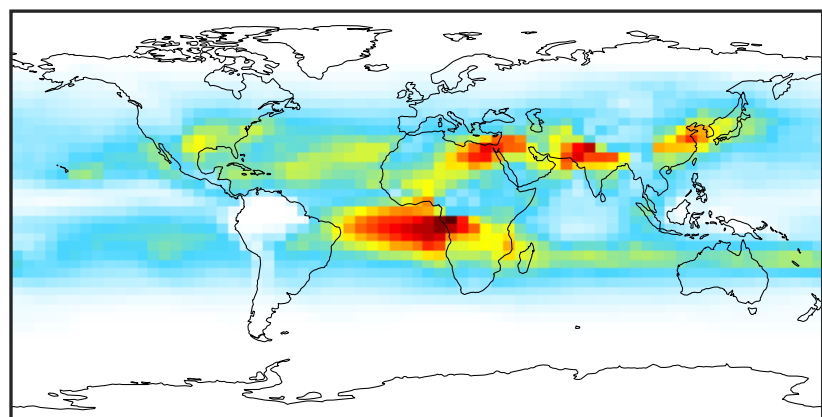
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

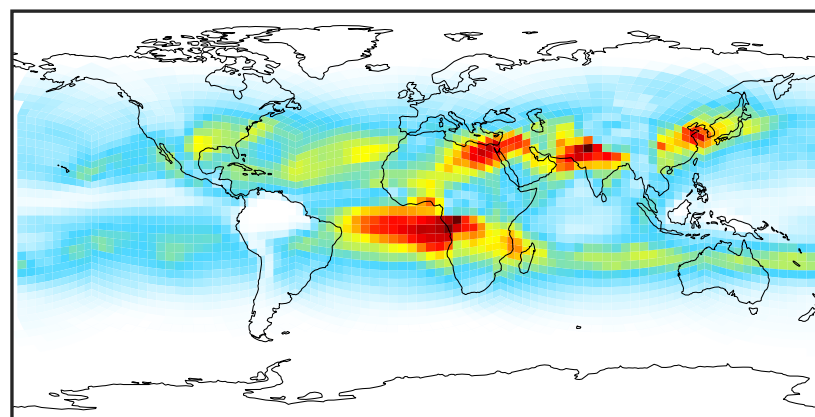
# SpeciesConcVV\_NO3 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



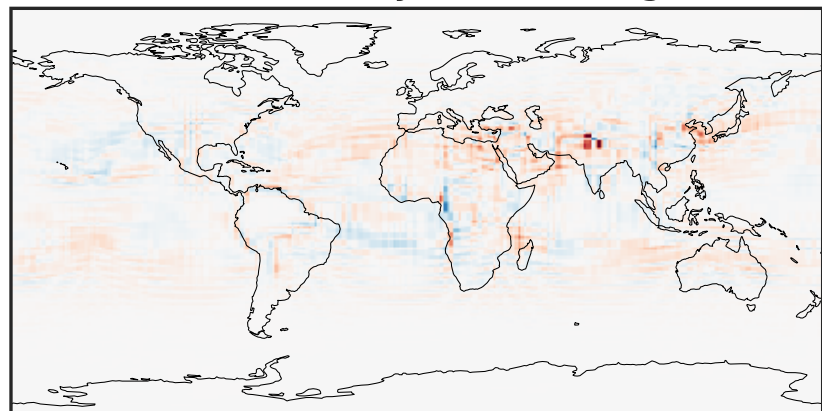
0.0015 0.0030 0.0045  
ppb

GCHP\_14.2.0 (Dev)  
c24



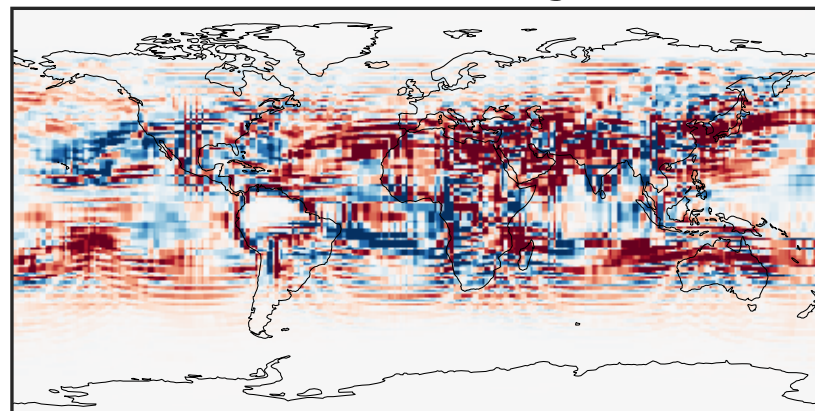
0.0015 0.0030 0.0045  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



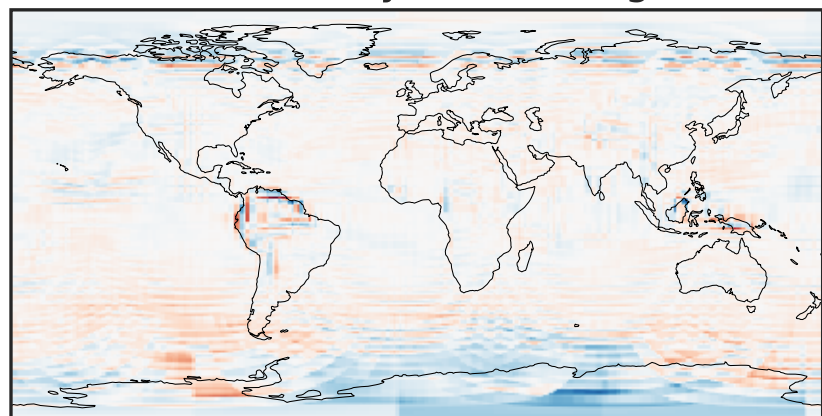
-0.001 0.000 0.001  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



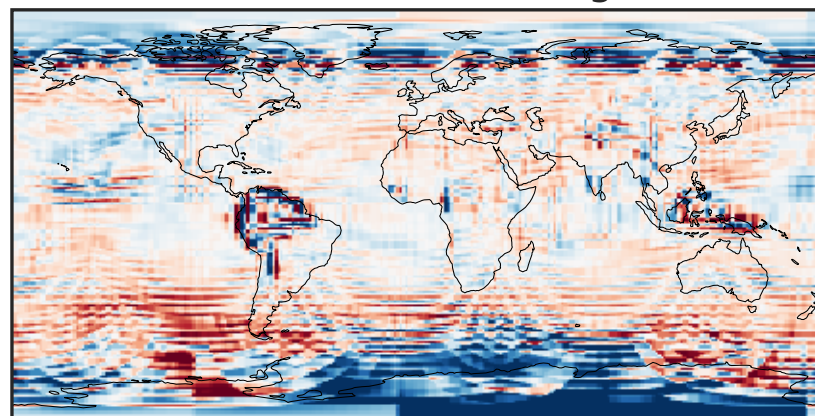
-0.00015 0.00000 0.00015  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



1e-01 1 10  
unitless

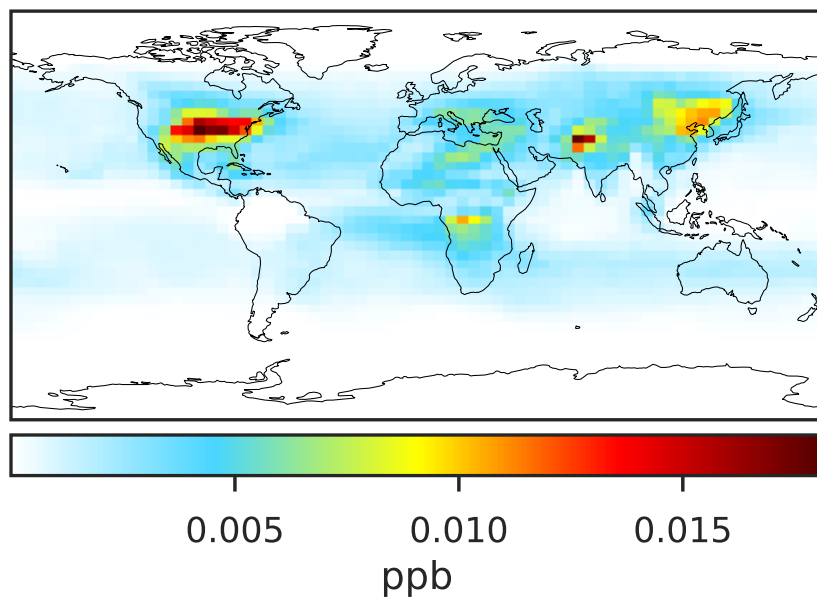
Ratio (1x1.25)  
Dev/Ref, Fixed Range



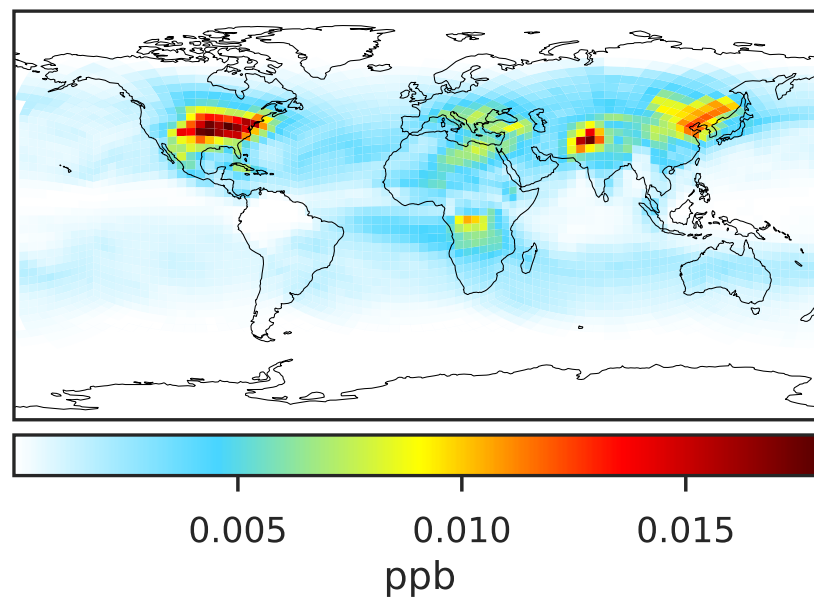
0.50 0.75 1.00 1.50 2.00  
unitless

# SpeciesConcVV\_N2O5 (Jul2019)

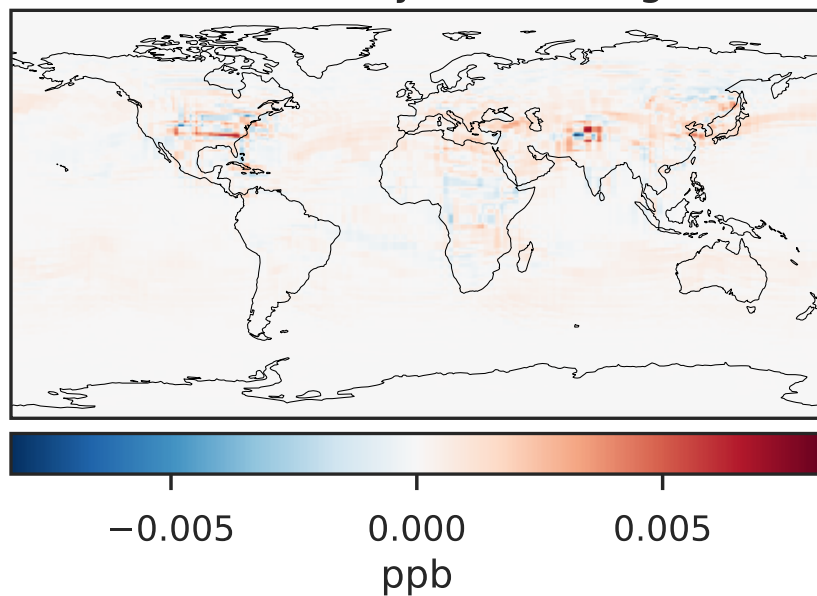
GCC\_14.2.0 (Ref)  
4.0x5.0



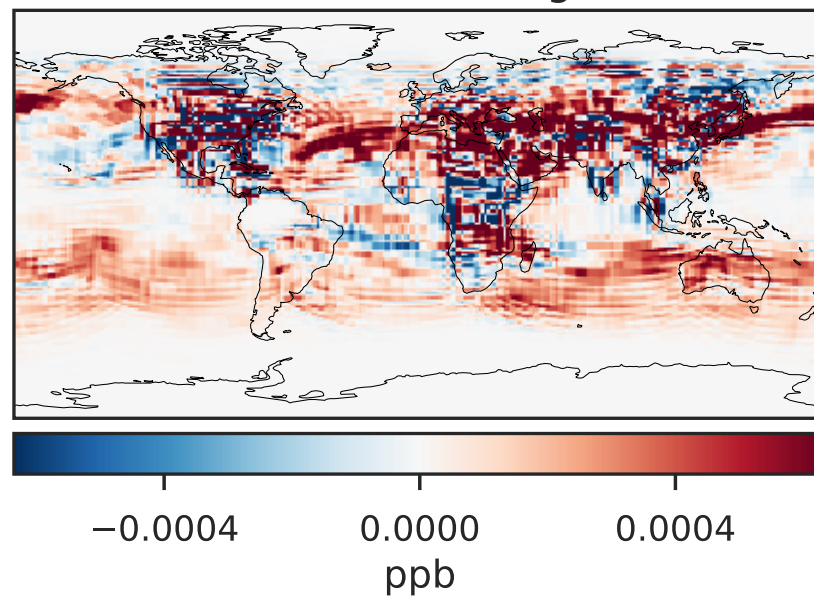
GCHP\_14.2.0 (Dev)  
c24



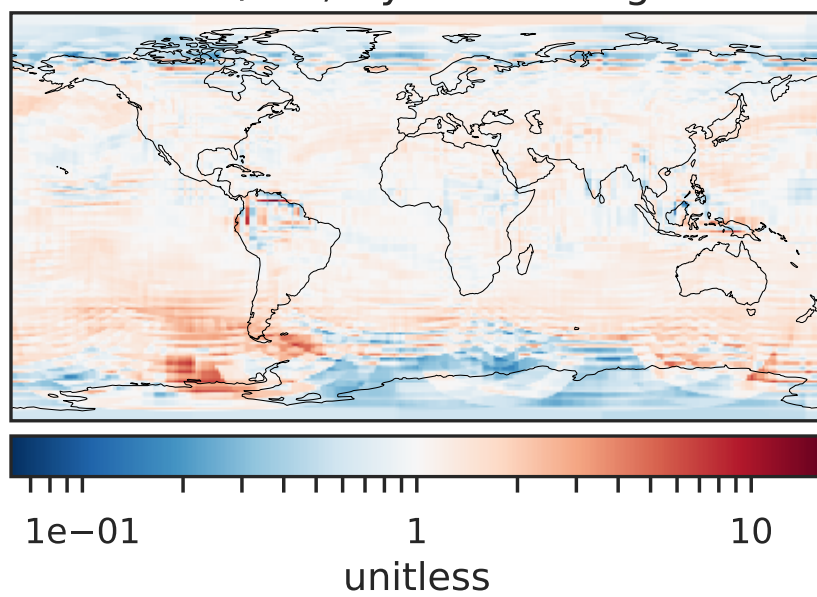
Difference (1x1.25)  
Dev - Ref, Dynamic Range



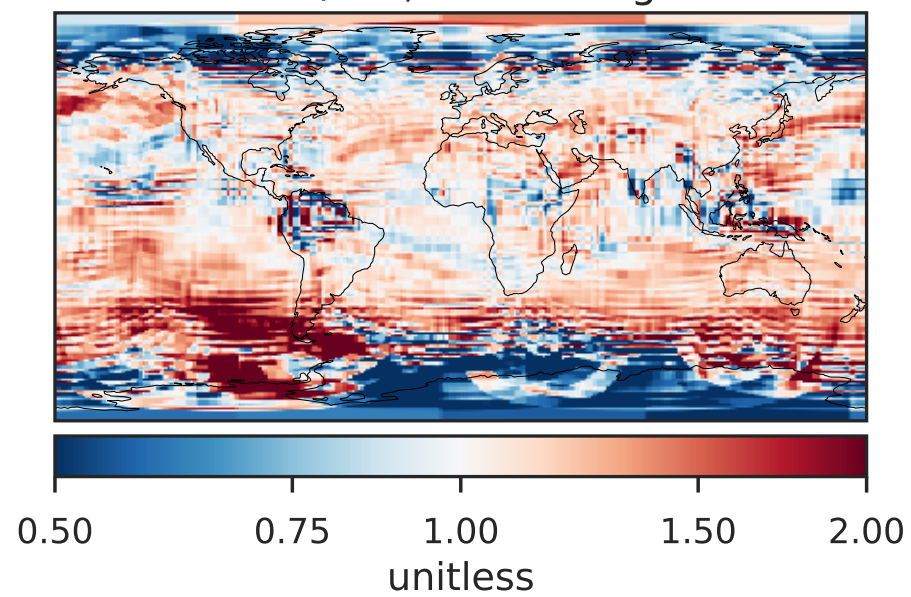
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

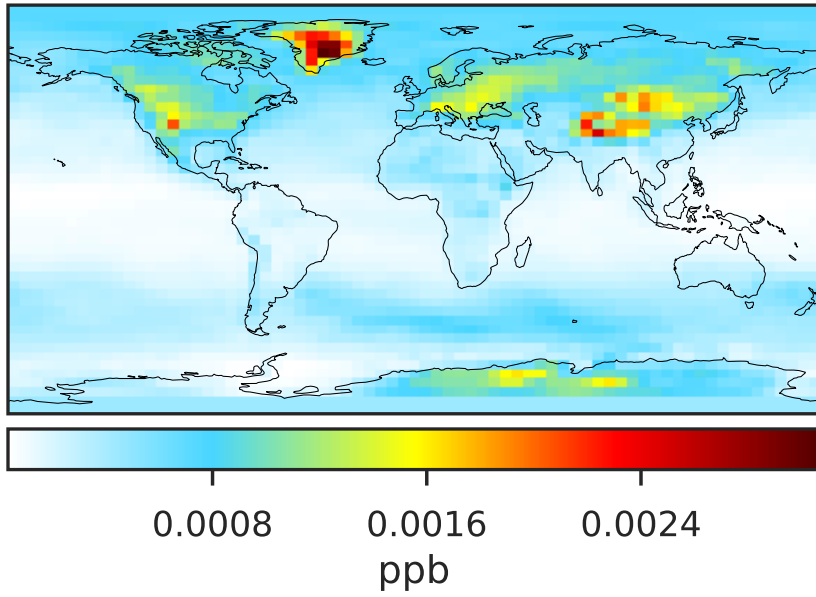


Ratio (1x1.25)  
Dev/Ref, Fixed Range

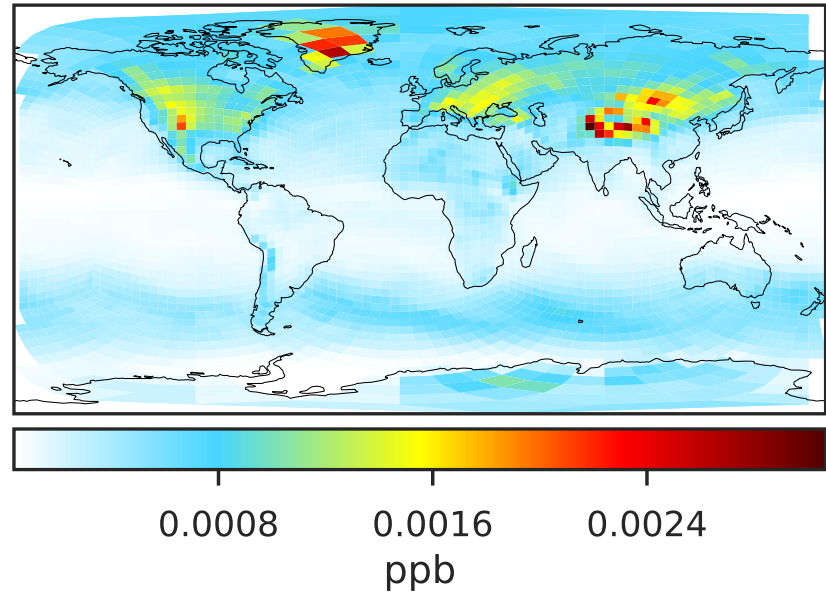


# SpeciesConcVV\_MPN (Jul2019)

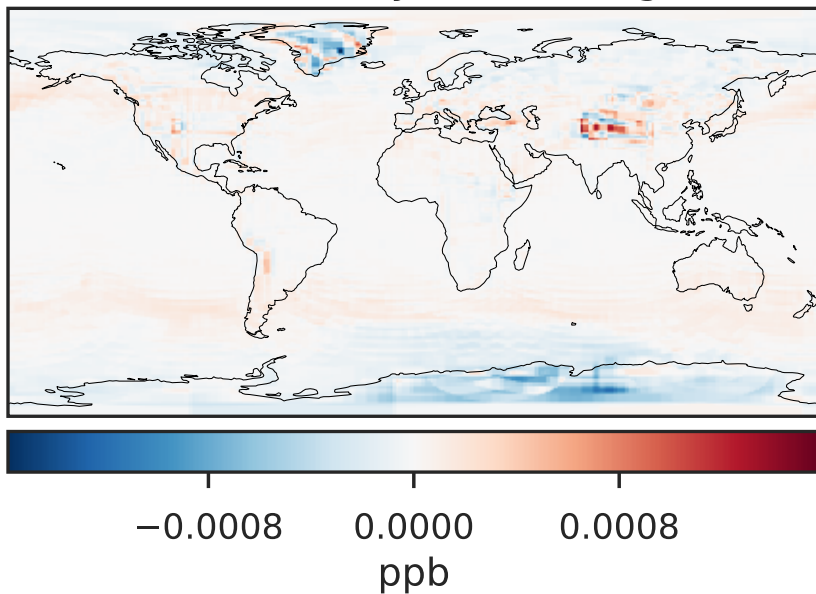
GCC\_14.2.0 (Ref)  
4.0x5.0



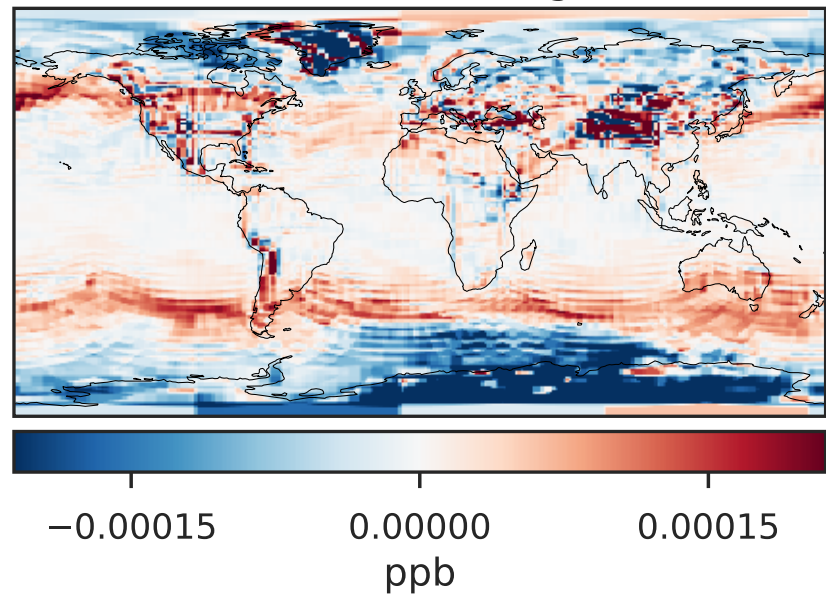
GCHP\_14.2.0 (Dev)  
c24



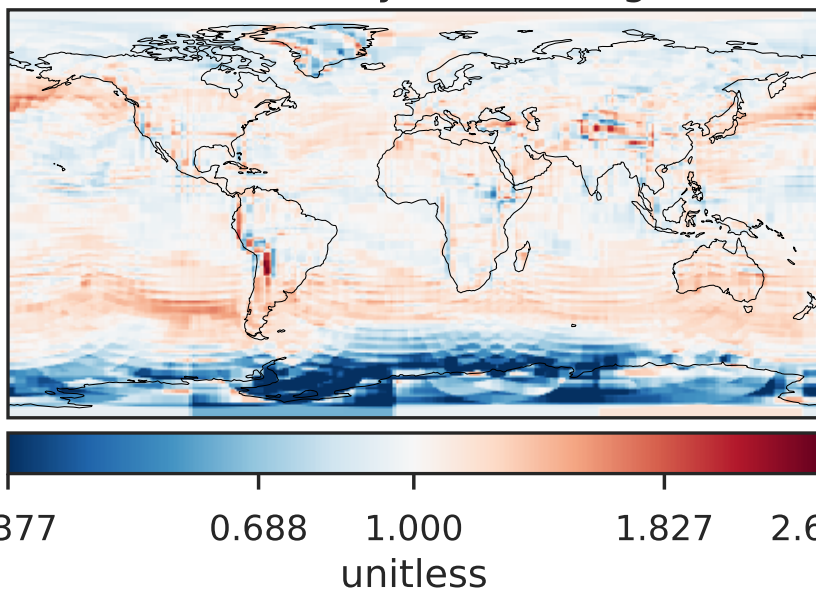
Difference (1x1.25)  
Dev - Ref, Dynamic Range



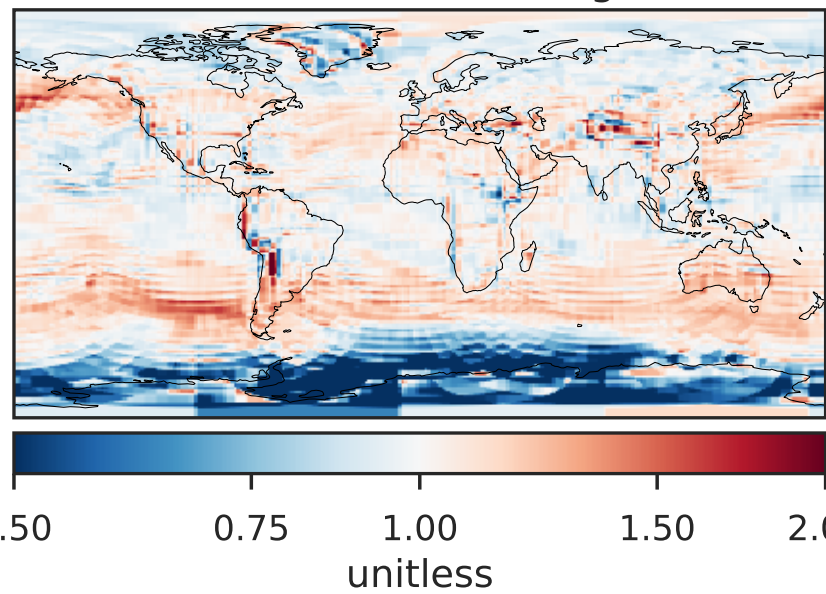
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

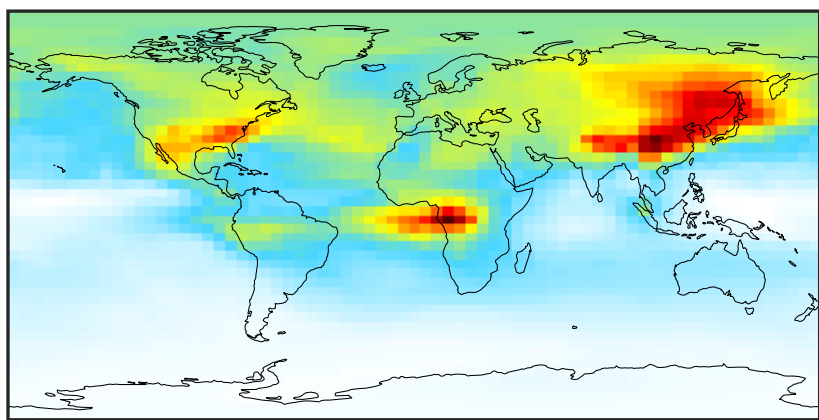


Ratio (1x1.25)  
Dev/Ref, Fixed Range



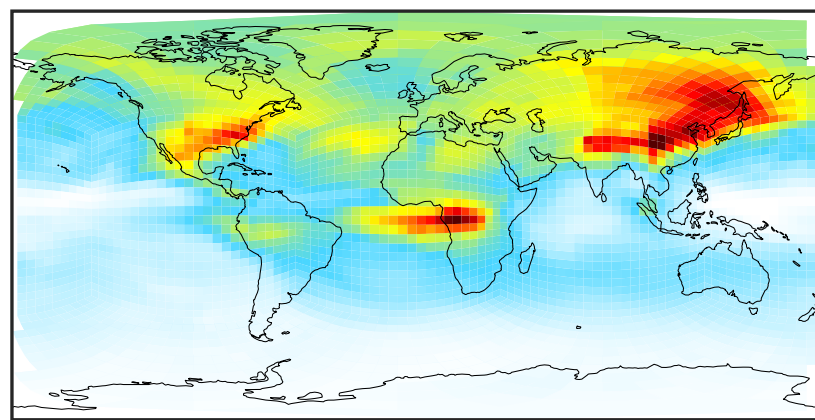
# SpeciesConcVV\_PAN (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



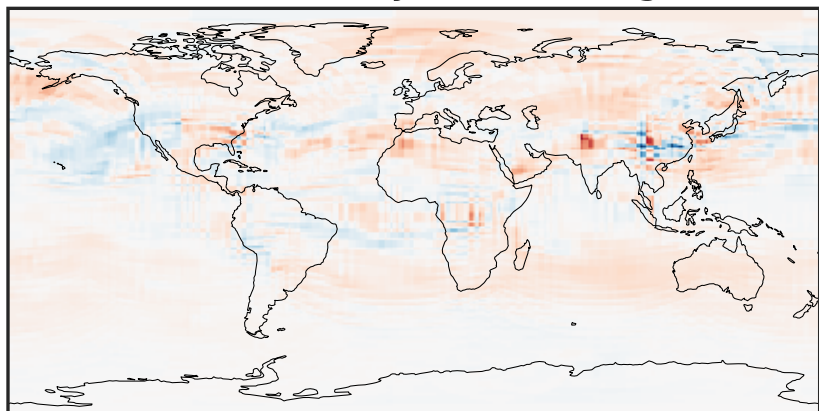
0.013 0.130 0.260 0.390 0.533  
ppb

GCHP\_14.2.0 (Dev)  
c24



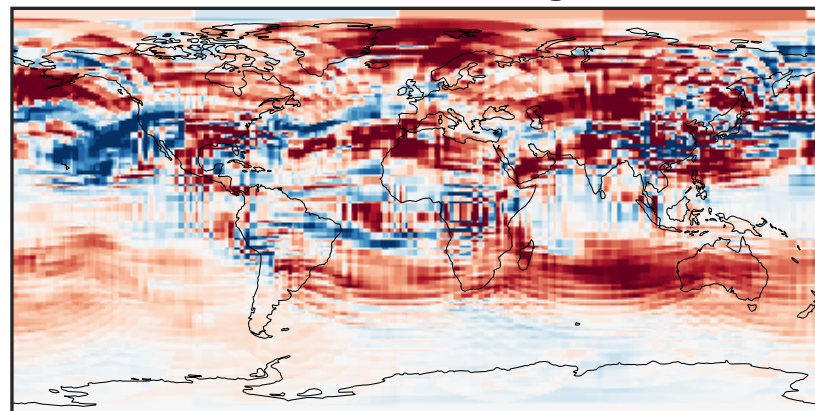
0.013 0.130 0.260 0.390 0.533  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



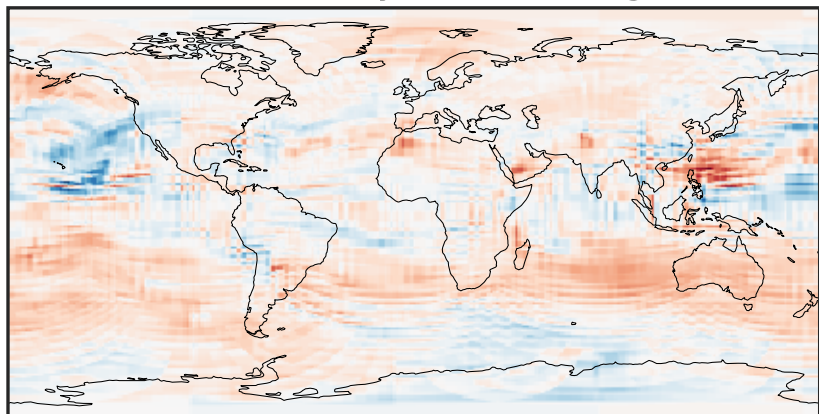
-0.150 -0.075 0.000 0.075 0.150  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



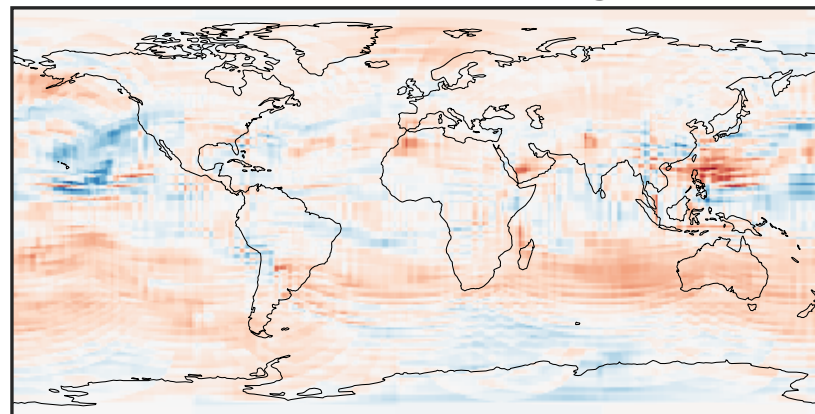
-0.015 0.000 0.015  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.518 0.759 1.000 1.465 1.929  
unitless

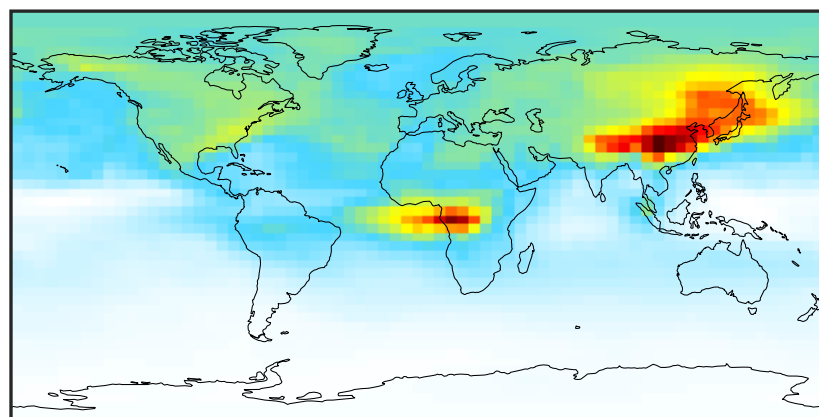
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

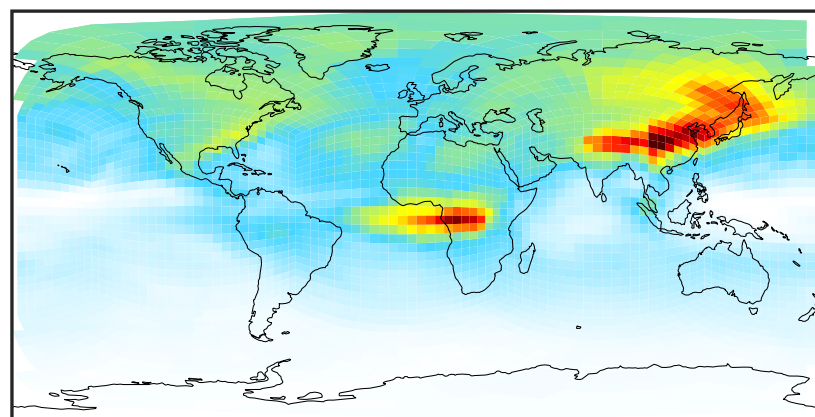
# SpeciesConcVV\_PPN (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



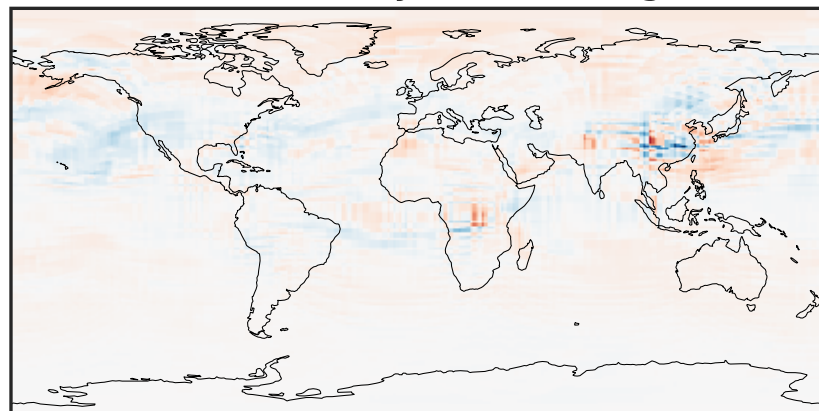
0.025 0.050 0.075  
ppb

GCHP\_14.2.0 (Dev)  
c24



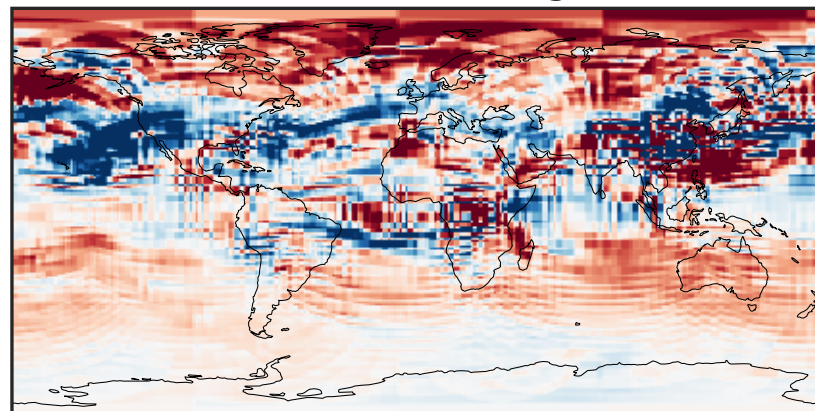
0.025 0.050 0.075  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



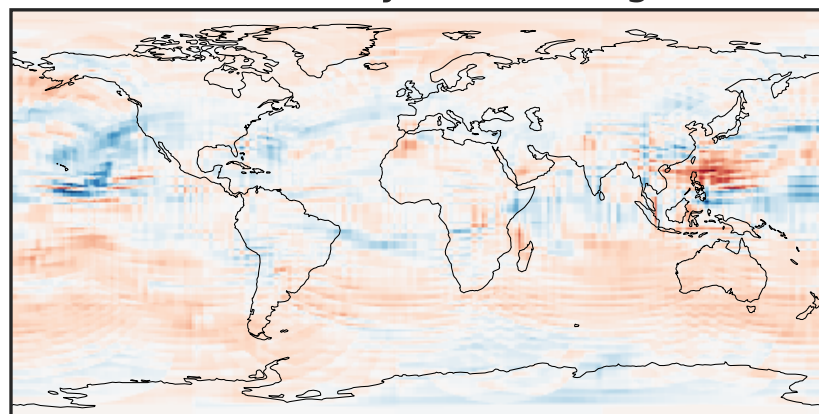
-0.015 0.000 0.015  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



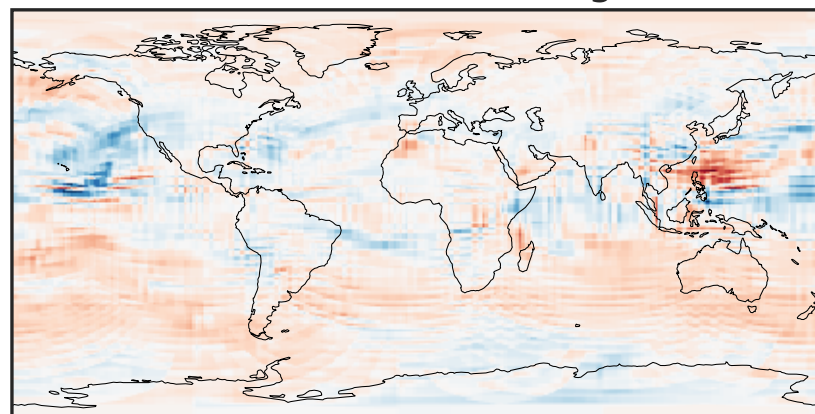
-0.0015 0.0000 0.0015  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.484 0.742 1.000 1.534 2.068  
unitless

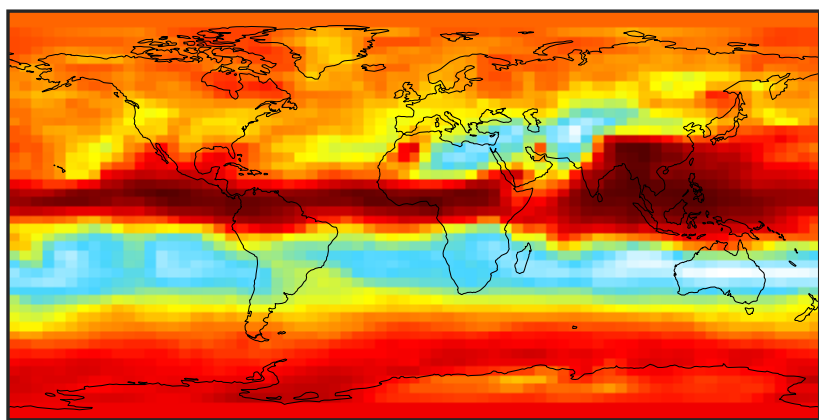
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

# SpeciesConcVV\_N2O (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0

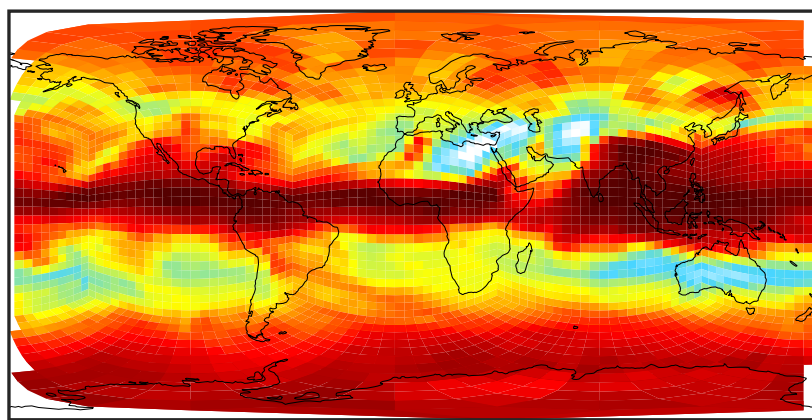


0.0

320.0

ppb

GCHP\_14.2.0 (Dev)  
c24

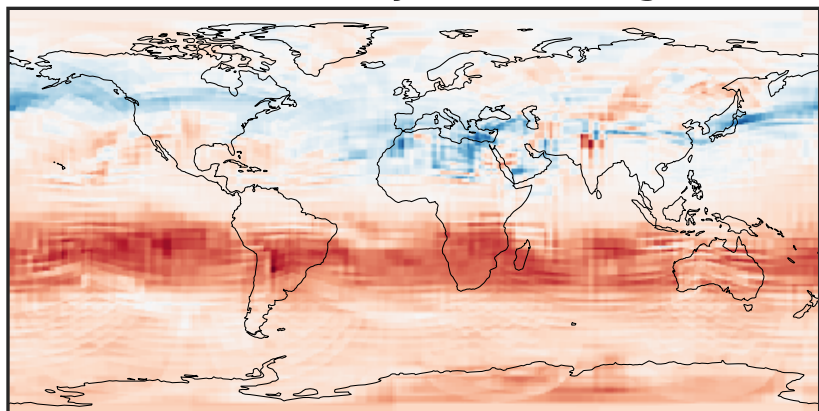


0.0

320.0

ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



-0.3233

-0.1616

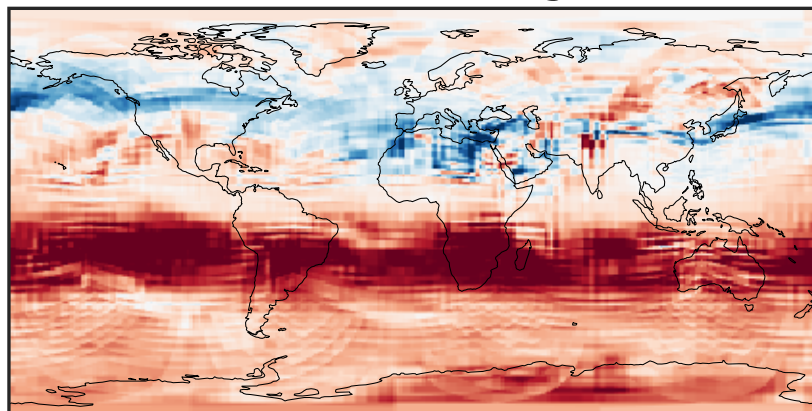
0.0000

0.1616

0.3233

ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



-0.1814

-0.0907

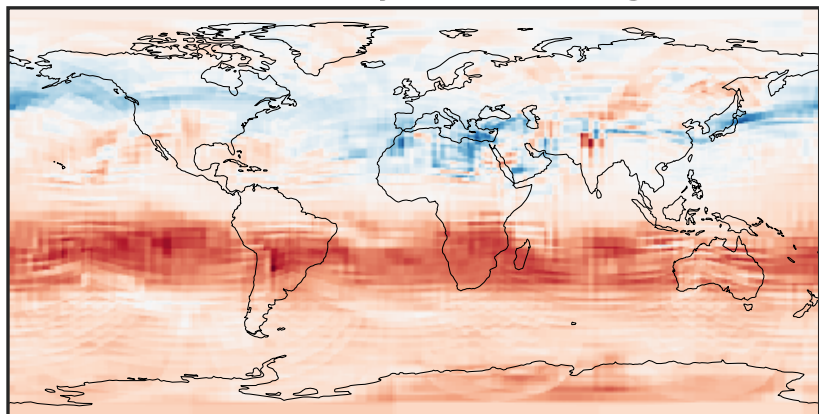
0.0000

0.0907

0.1814

ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



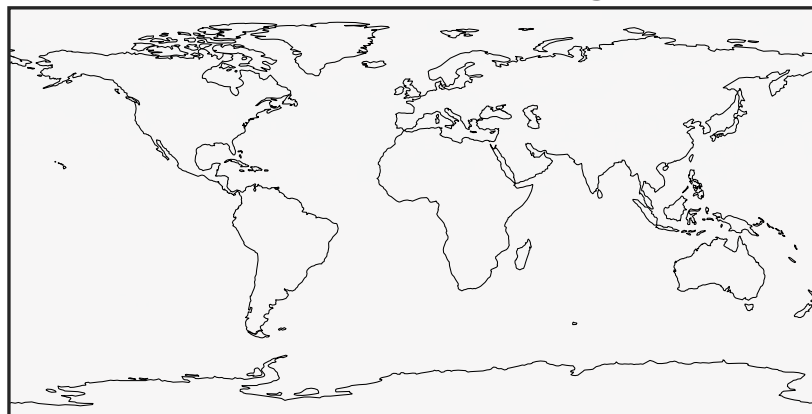
0.99902

1.00000

1.00098

unitless

Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50

0.75

1.00

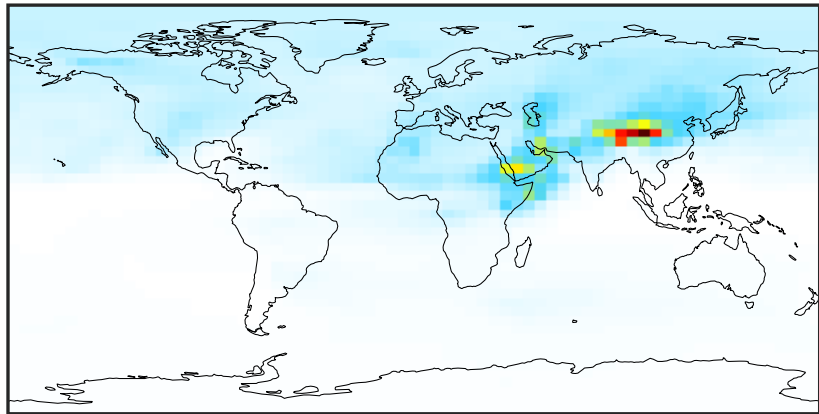
1.50

2.00

unitless

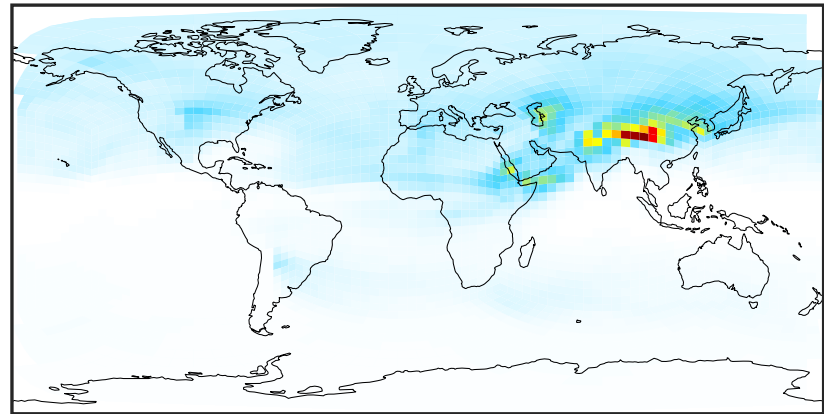
# SpeciesConcVV\_NHx (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



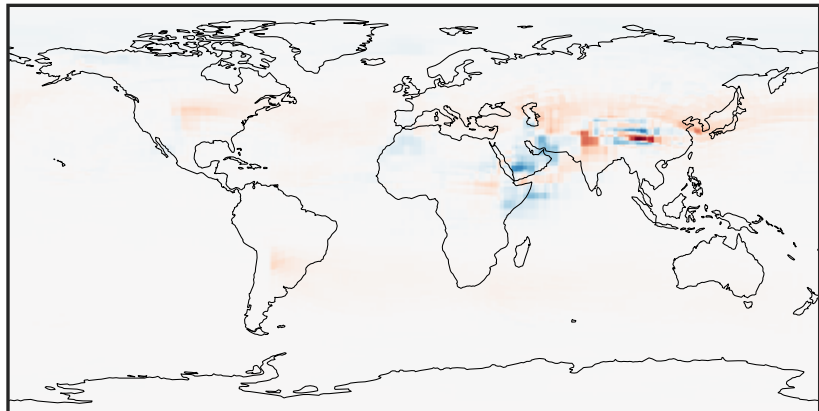
0.001 0.291 0.583 0.874 1.166  
ppb

GCHP\_14.2.0 (Dev)  
c24



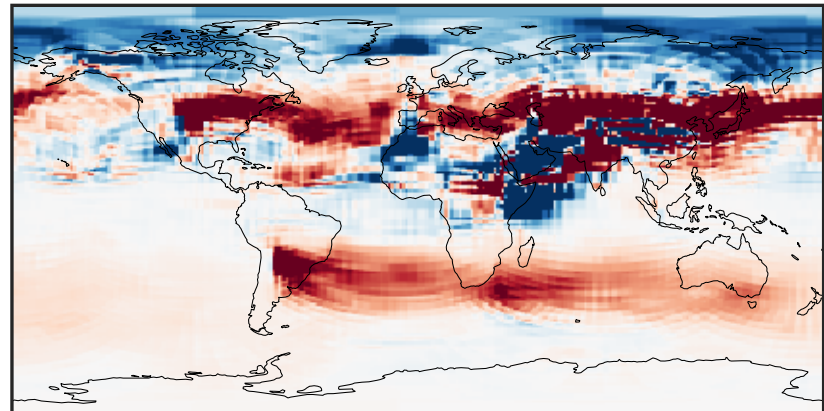
0.001 0.291 0.583 0.874 1.166  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



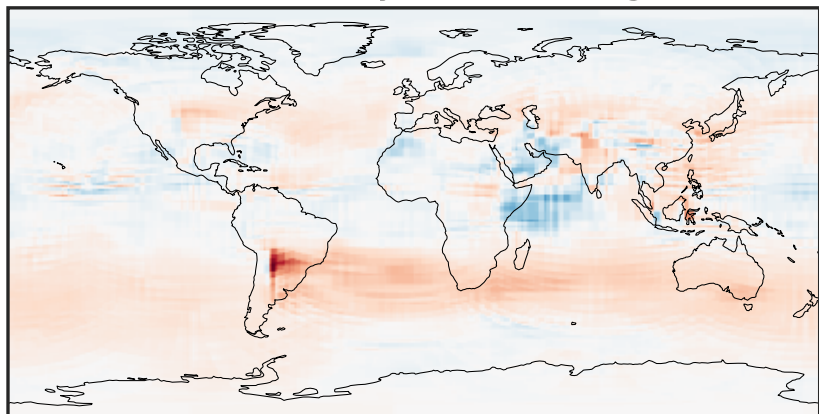
-0.662 -0.331 0.000 0.331 0.662  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



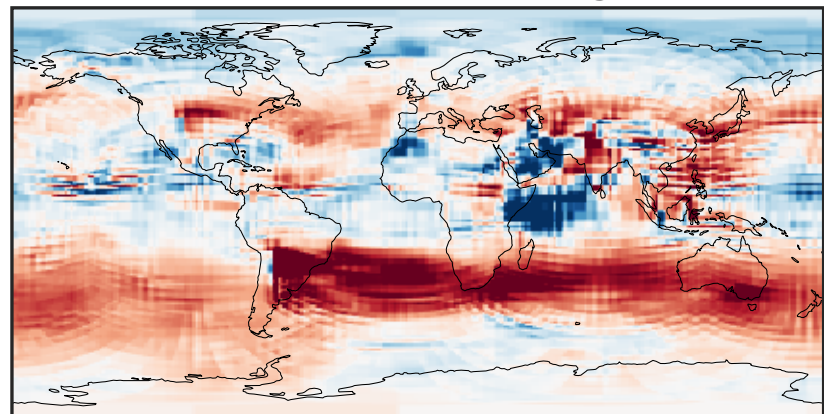
-0.015 0.000 0.015  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



1e-01 1 10  
unitless

Ratio (1x1.25)  
Dev/Ref, Fixed Range

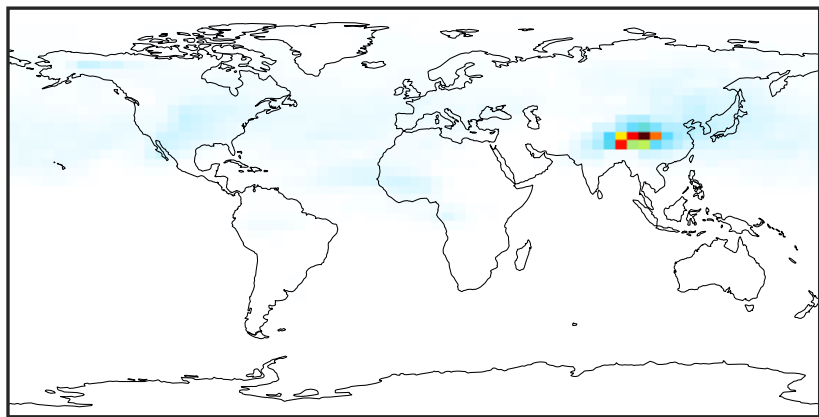


0.50 0.75 1.00 1.50 2.00  
unitless



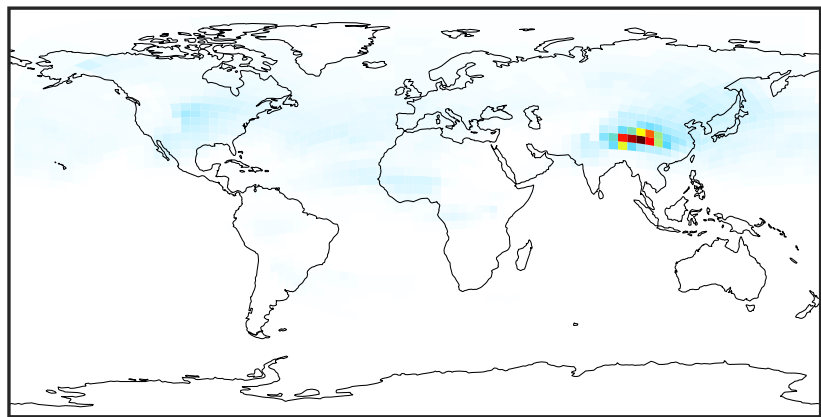
# SpeciesConcVV\_NH3 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



0.0000 0.2149 0.4297 0.6446 0.8595  
ppb

GCHP\_14.2.0 (Dev)  
c24



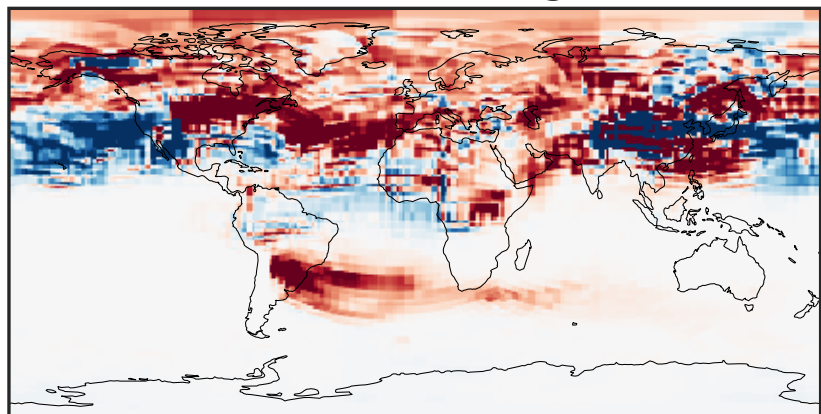
0.0000 0.2149 0.4297 0.6446 0.8595  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



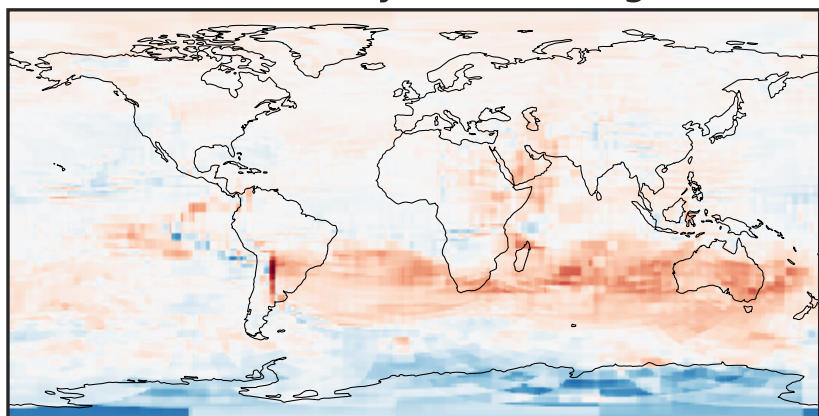
-0.534 -0.267 0.000 0.267 0.534  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



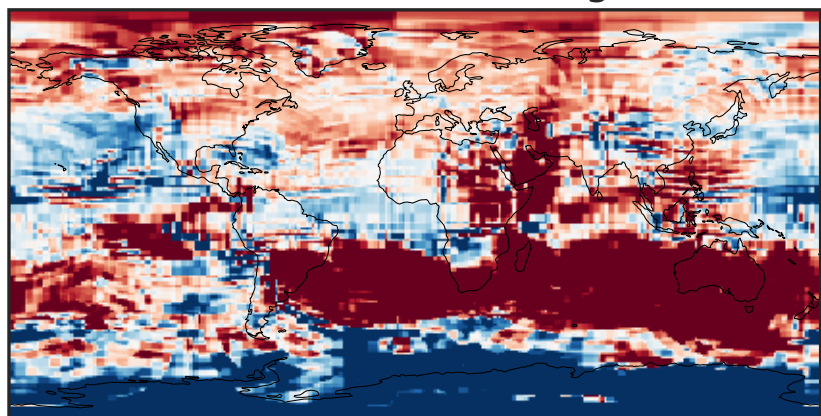
-0.003 0.000 0.003  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



1e-02 1e-01 1 10 100  
unitless

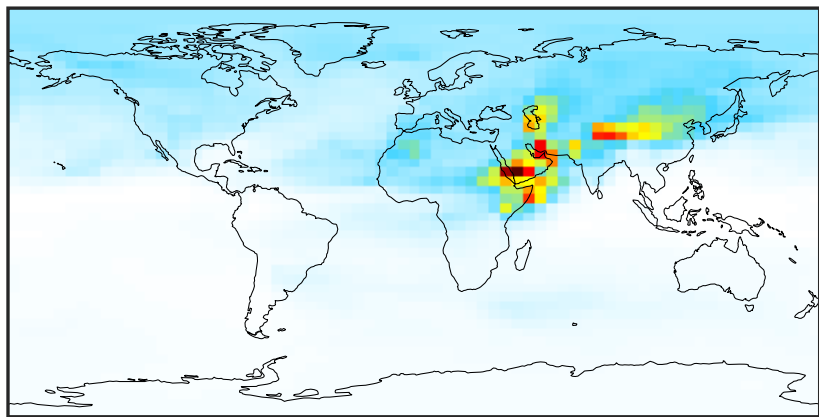
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

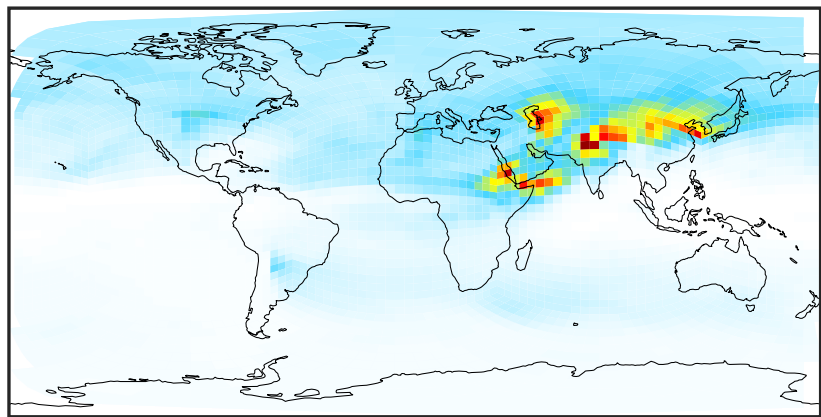
# SpeciesConcVV\_NH4 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



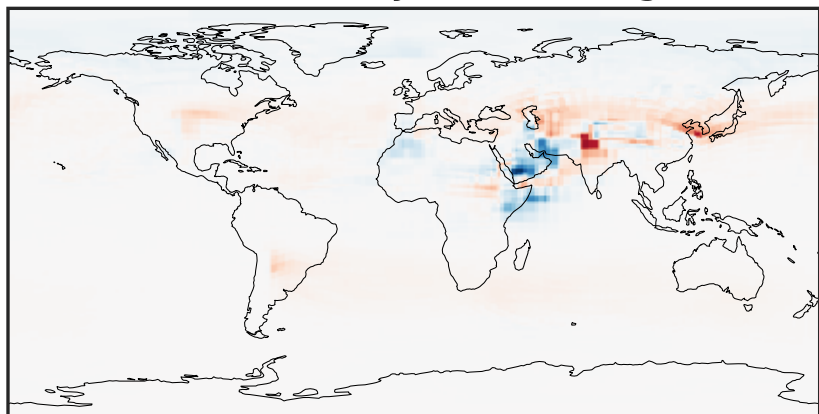
0.0006 0.1513 0.3026 0.4539 0.6059  
ppb

GCHP\_14.2.0 (Dev)  
c24



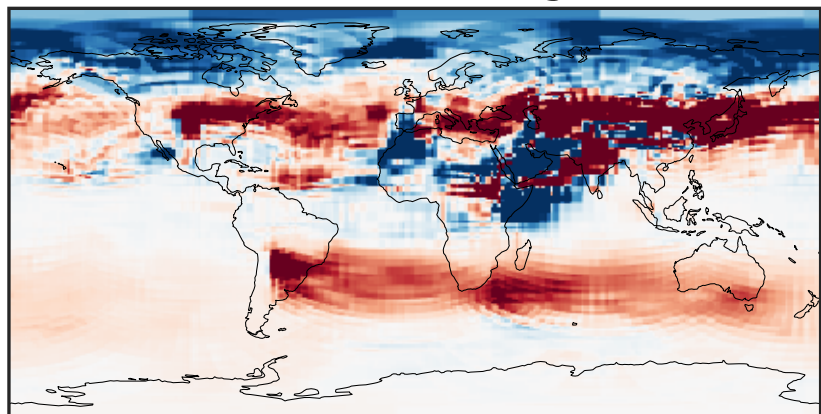
0.0006 0.1513 0.3026 0.4539 0.6059  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



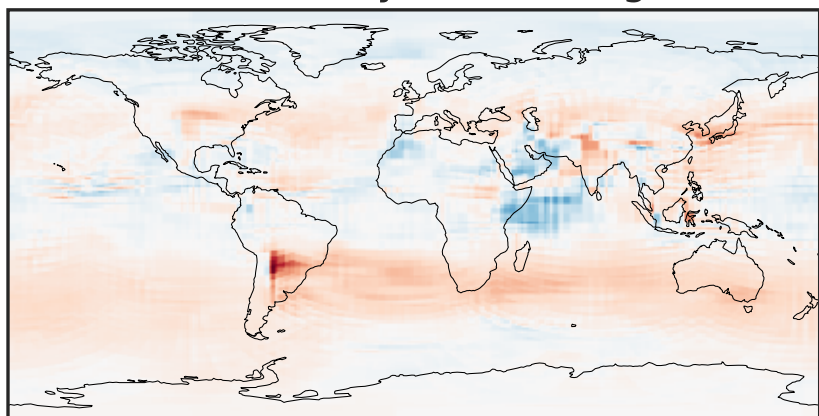
-0.4367 -0.2184 0.0000 0.2184 0.4367  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



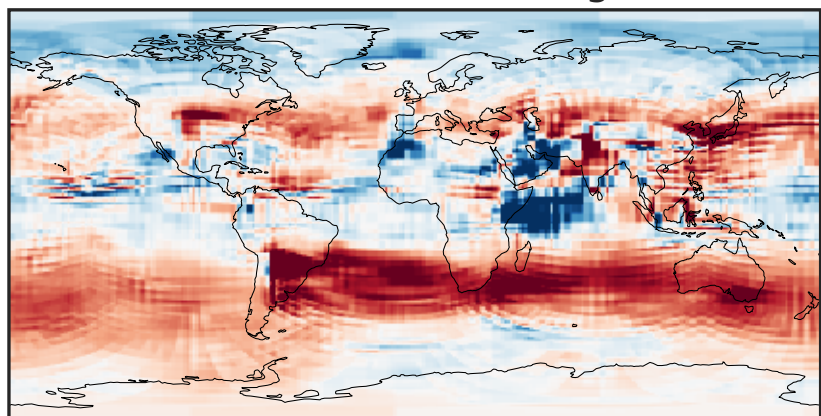
-0.015 0.000 0.015  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



1e-01 1 10  
unitless

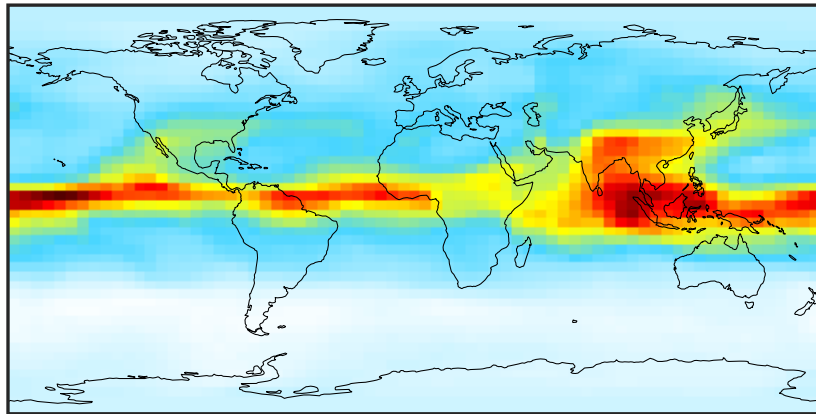
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

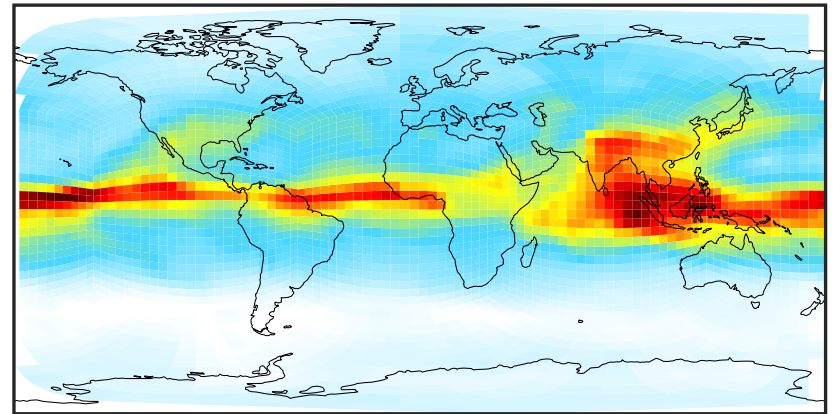
# SpeciesConcVW\_MENO3 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



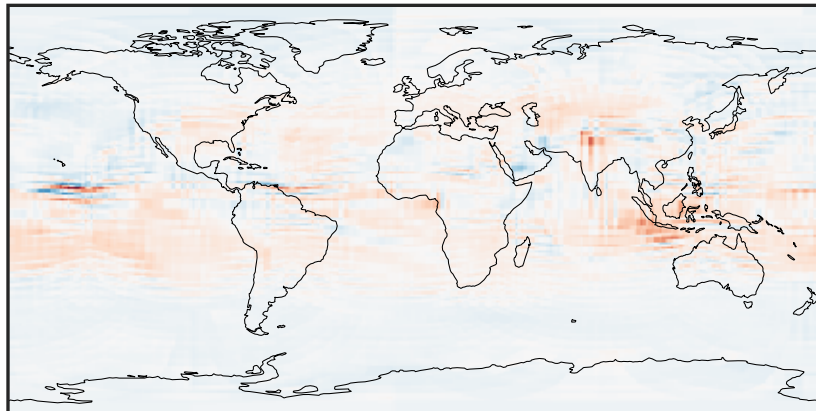
0.004 0.006 0.008 0.010  
ppb

GCHP\_14.2.0 (Dev)  
c24



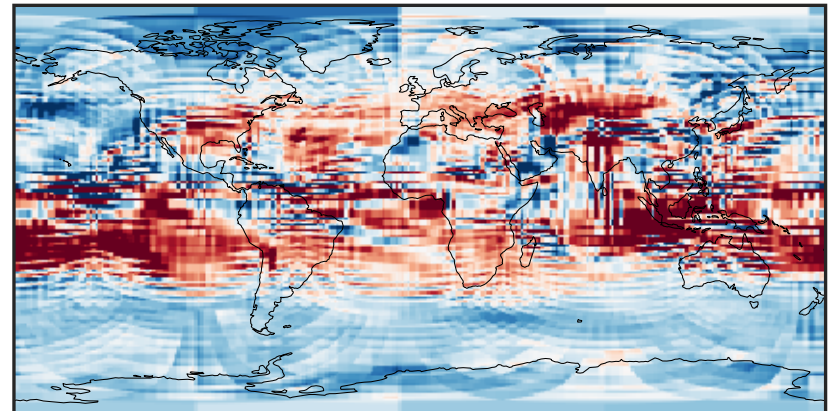
0.004 0.006 0.008 0.010  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



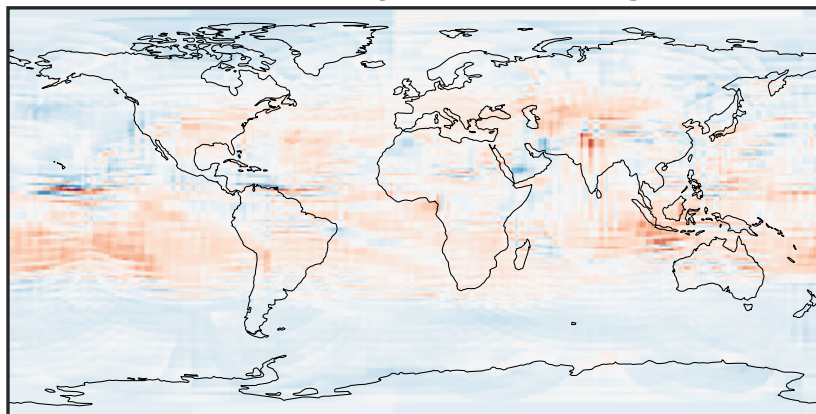
-0.0015 0.0000 0.0015  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



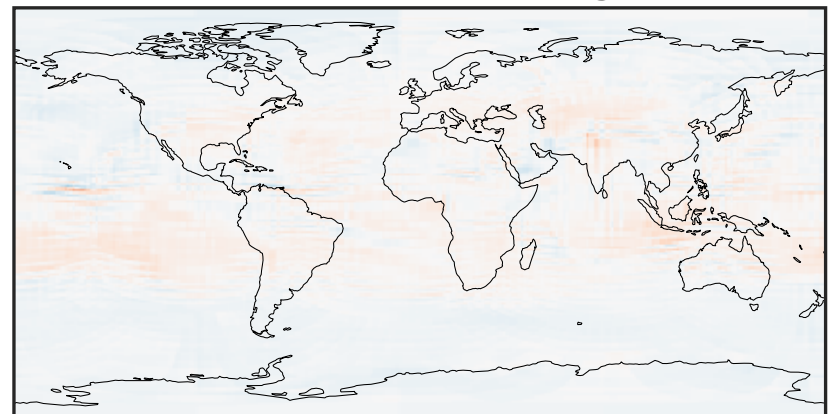
-0.0002 0.0000 0.0002  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.7731 0.8865 1.0000 1.1468 1.2935  
unitless

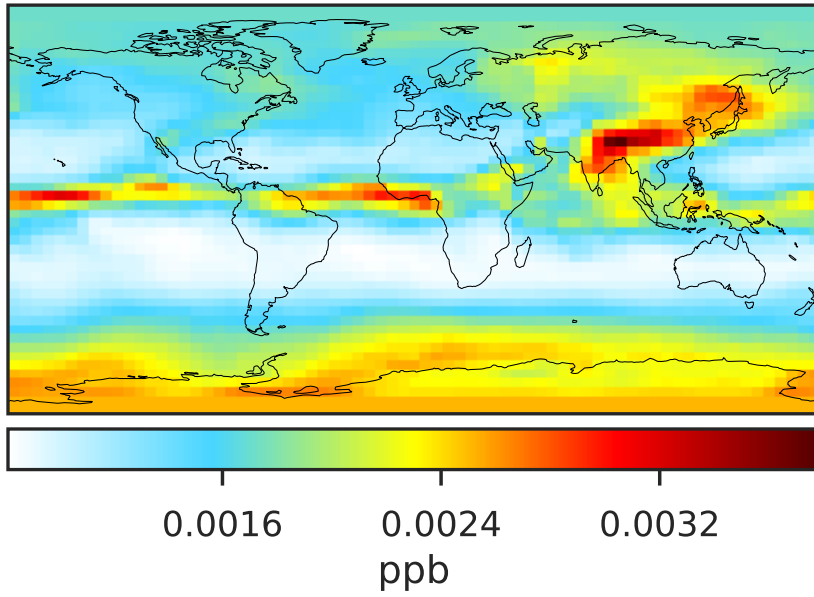
Ratio (1x1.25)  
Dev/Ref, Fixed Range



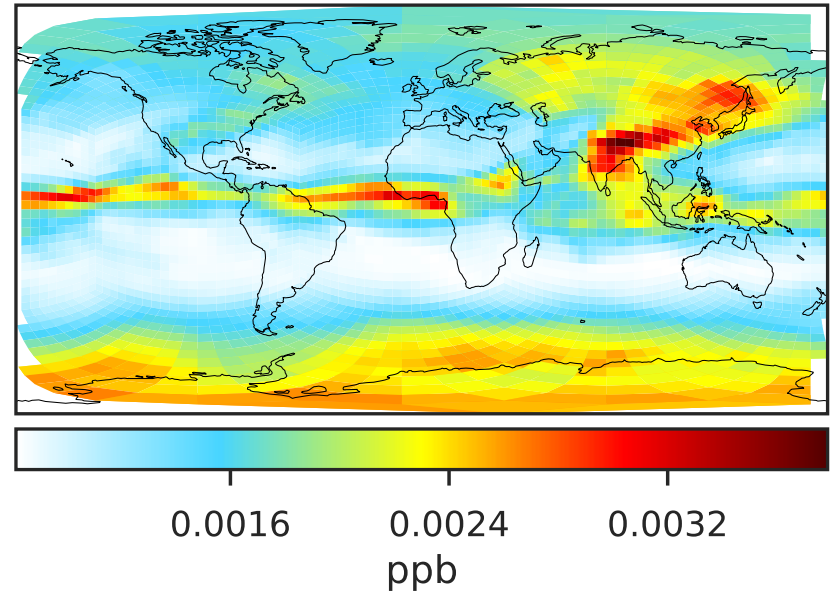
0.50 0.75 1.00 1.50 2.00  
unitless

# SpeciesConcVV\_ETNO3 (Jul2019)

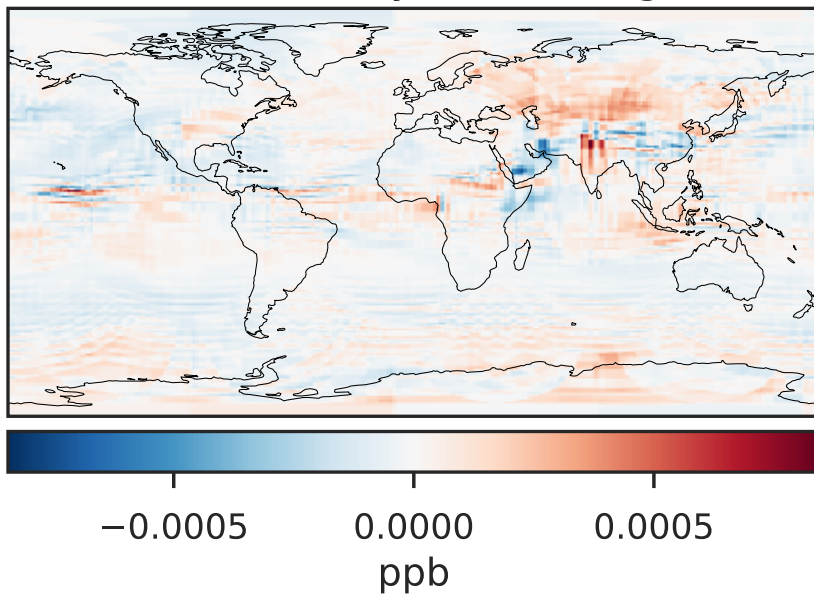
GCC\_14.2.0 (Ref)  
4.0x5.0



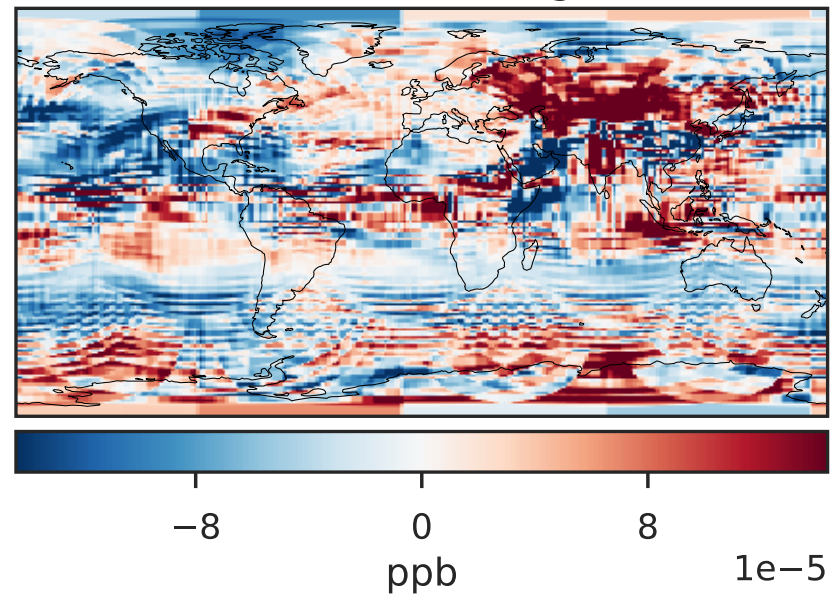
GCHP\_14.2.0 (Dev)  
c24



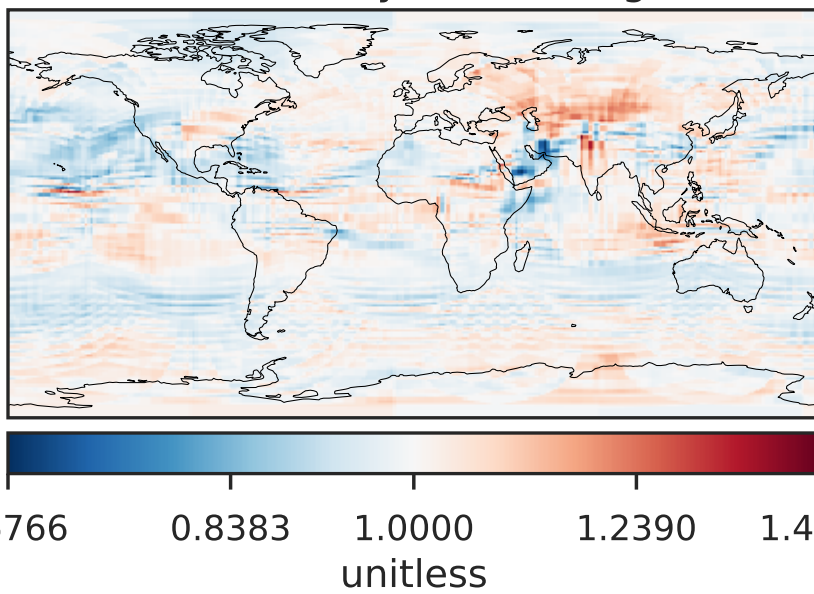
Difference (1x1.25)  
Dev - Ref, Dynamic Range



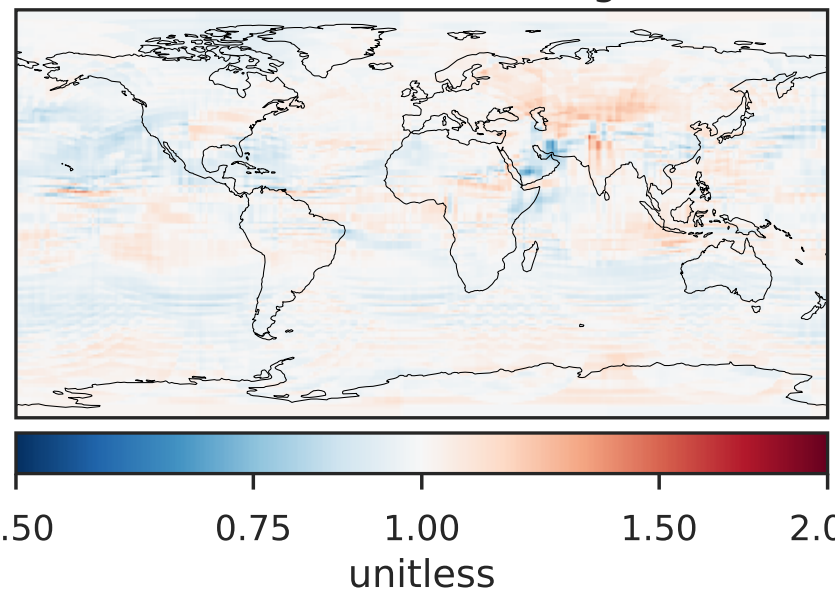
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

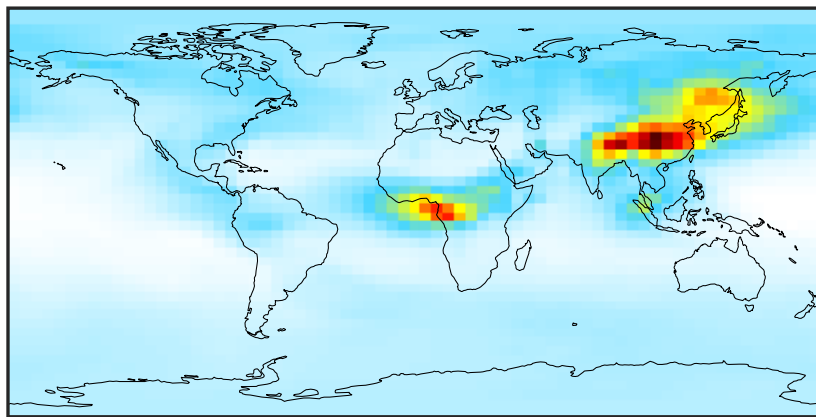


Ratio (1x1.25)  
Dev/Ref, Fixed Range



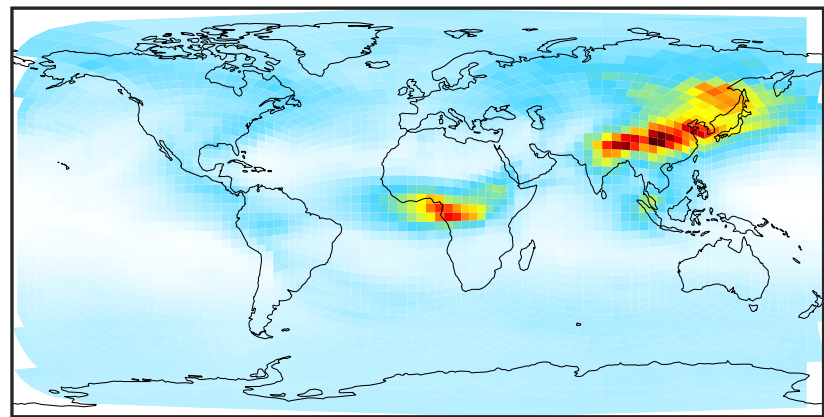
# SpeciesConcVV\_IPRNO3 (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



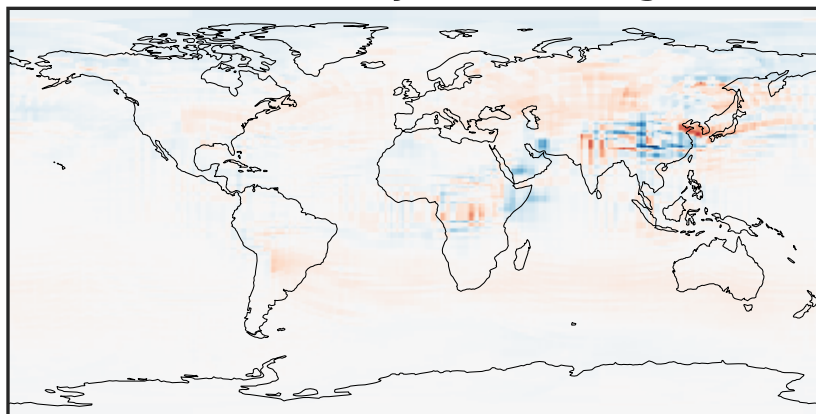
0.004 0.008 0.012  
ppb

GCHP\_14.2.0 (Dev)  
c24



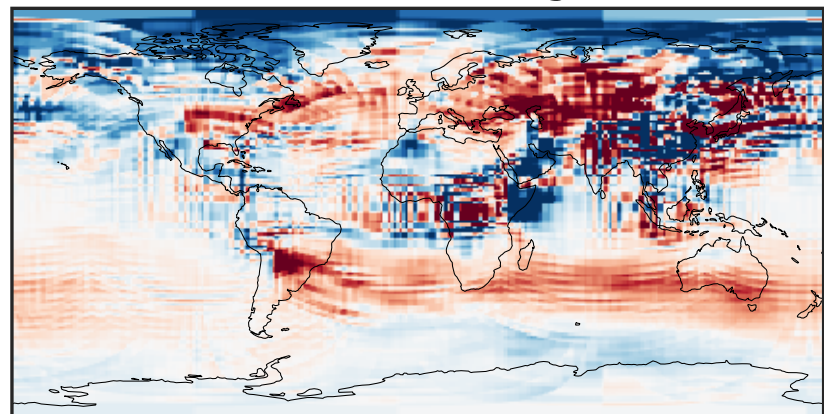
0.004 0.008 0.012  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



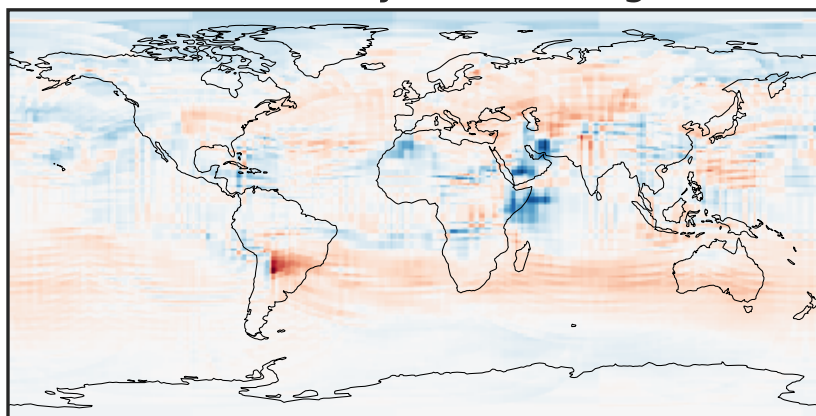
-0.0025 0.0000 0.0025  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



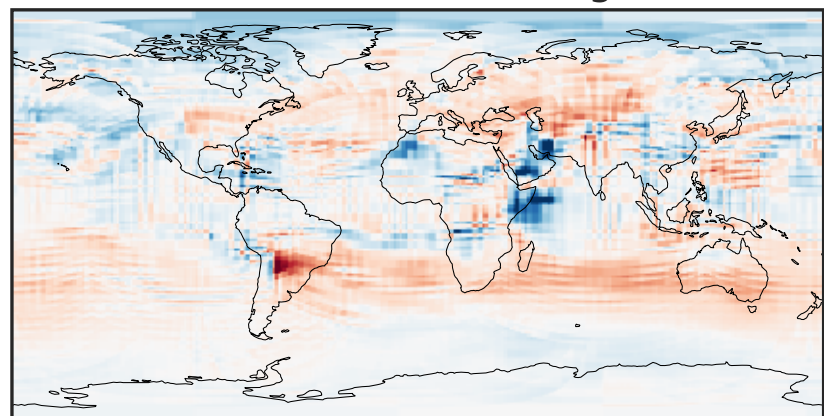
-0.00025 0.00000 0.00025  
ppb

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.376 0.688 1.000 1.829 2.658  
unitless

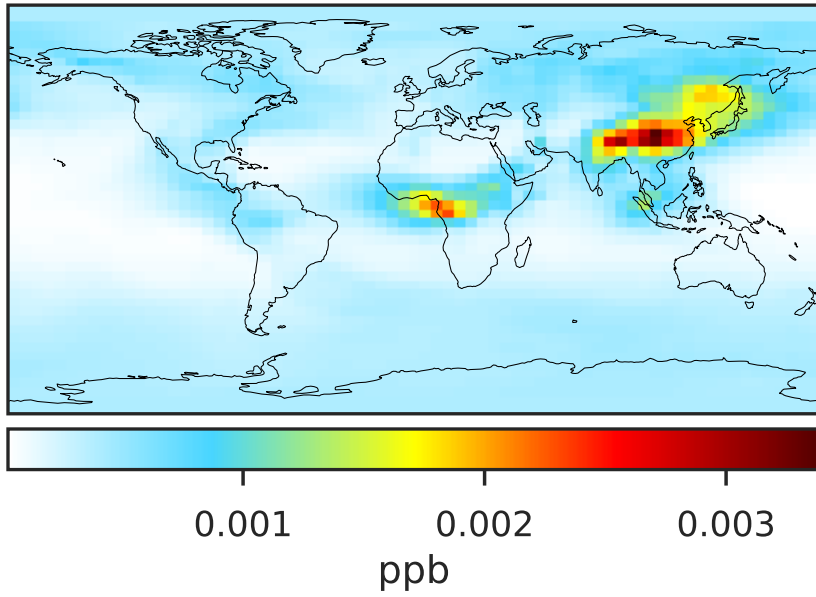
Ratio (1x1.25)  
Dev/Ref, Fixed Range



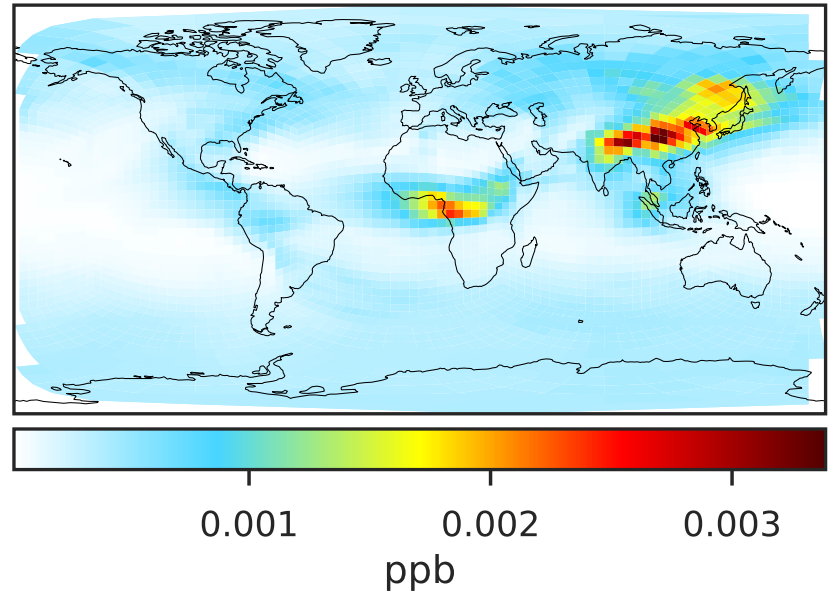
0.50 0.75 1.00 1.50 2.00  
unitless

# SpeciesConcVV\_NPRNO3 (Jul2019)

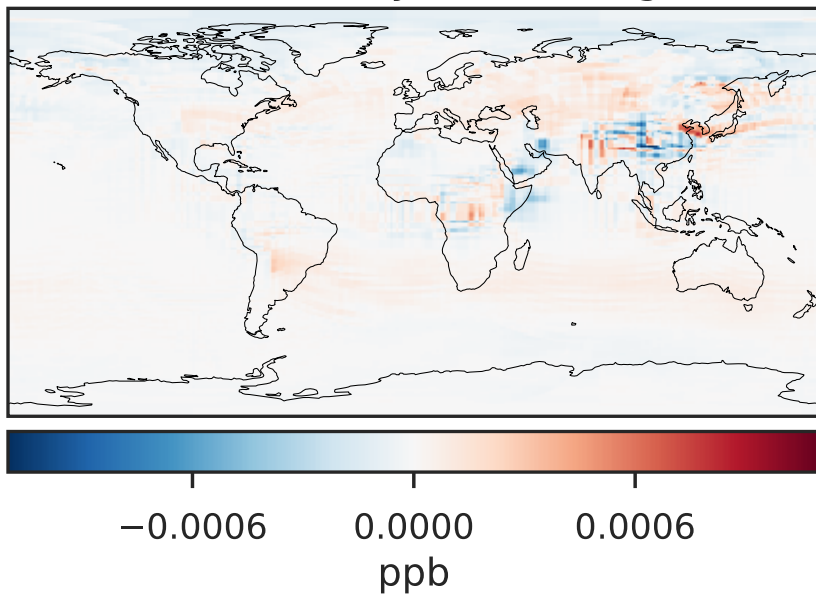
GCC\_14.2.0 (Ref)  
4.0x5.0



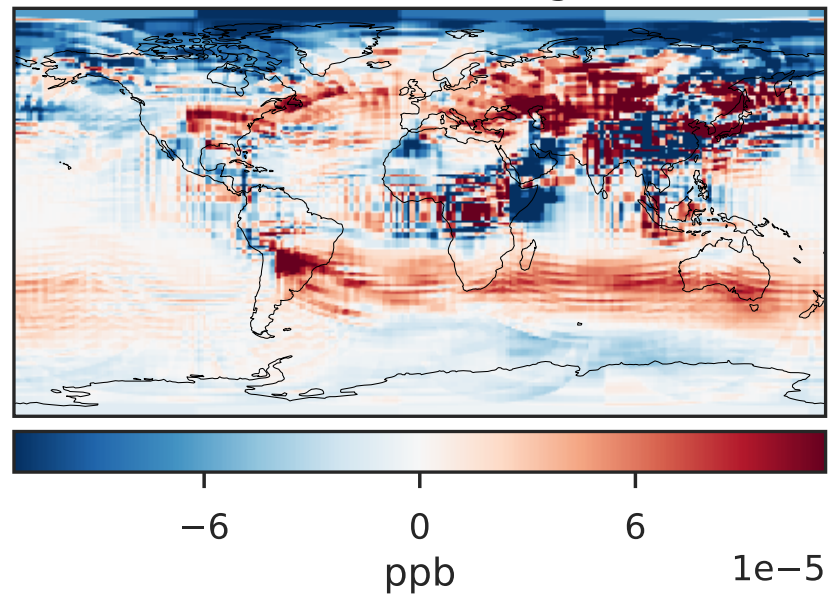
GCHP\_14.2.0 (Dev)  
c24



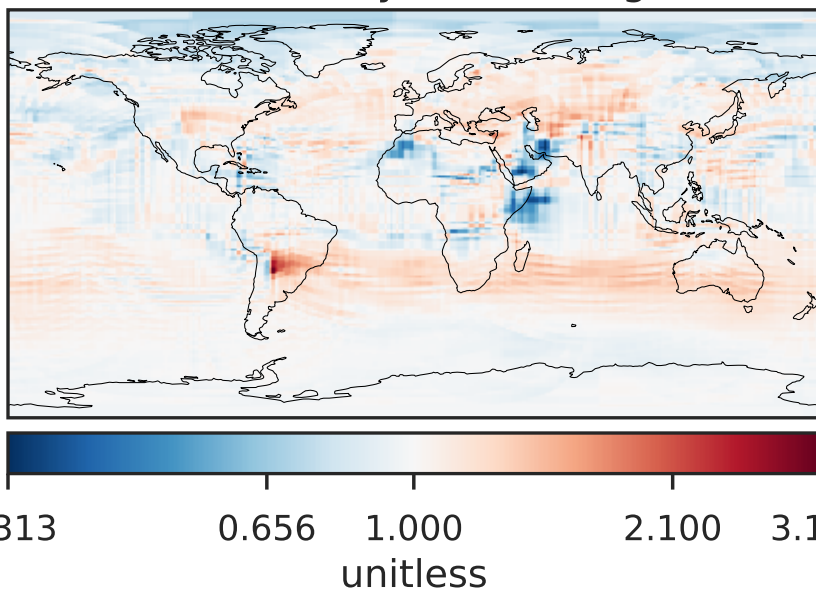
Difference (1x1.25)  
Dev - Ref, Dynamic Range



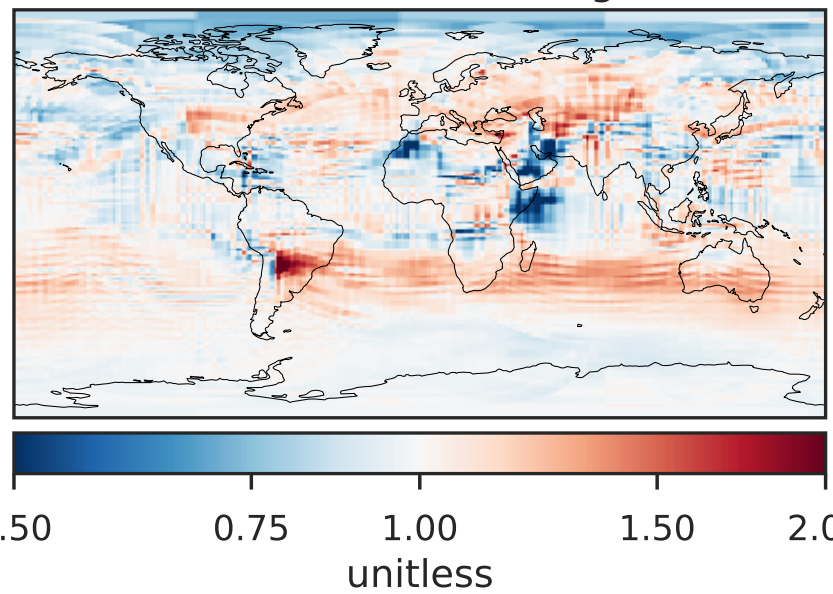
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

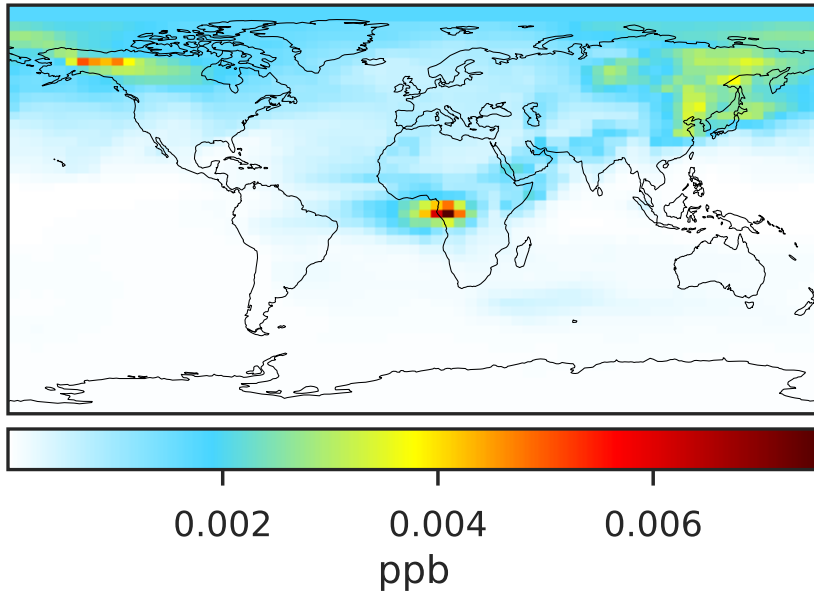


Ratio (1x1.25)  
Dev/Ref, Fixed Range

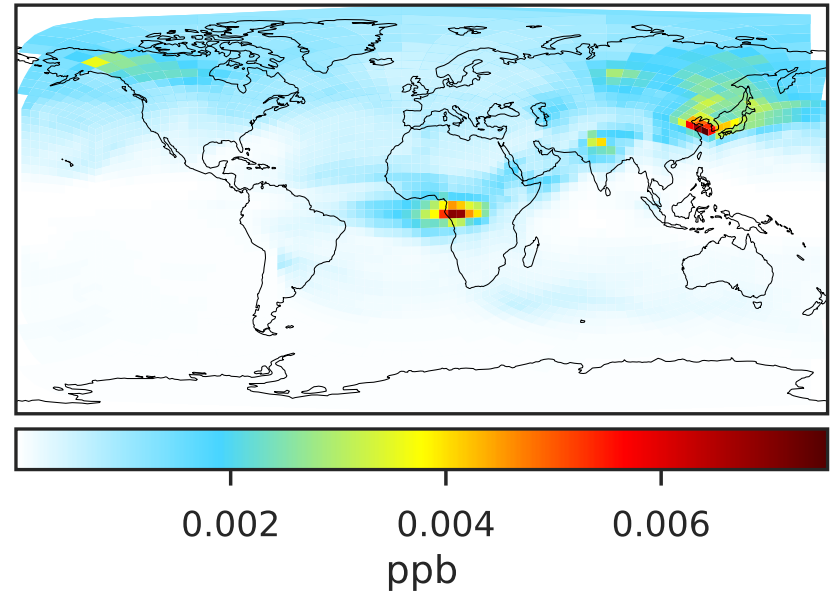


# SpeciesConcVV\_AONITA (Jul2019)

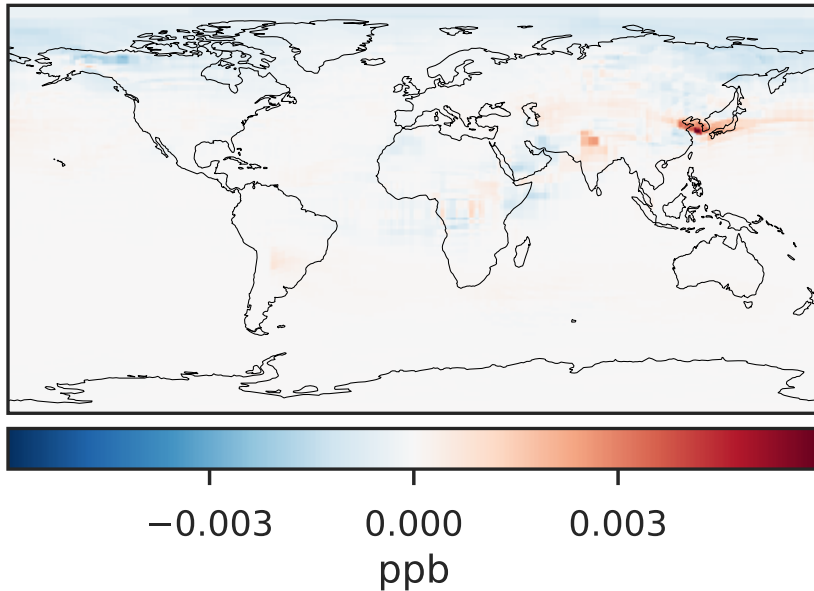
GCC\_14.2.0 (Ref)  
4.0x5.0



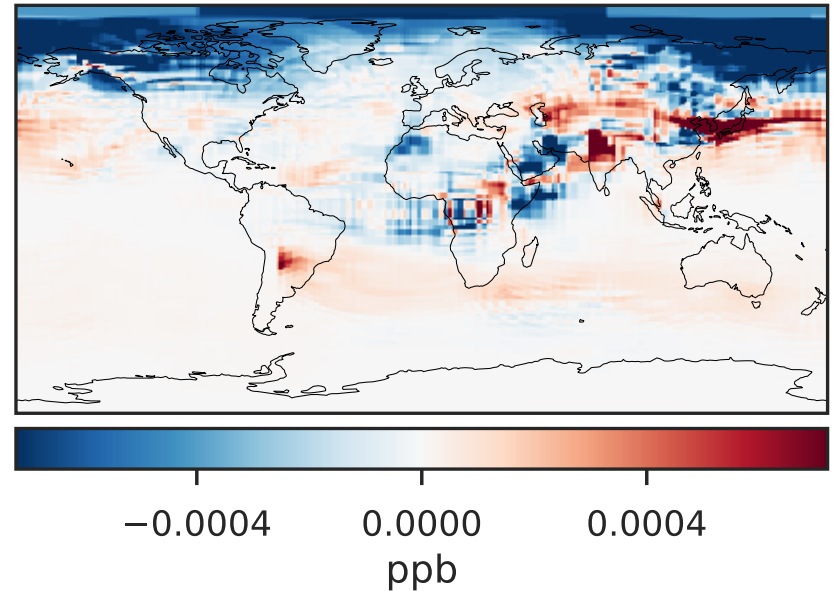
GCHP\_14.2.0 (Dev)  
c24



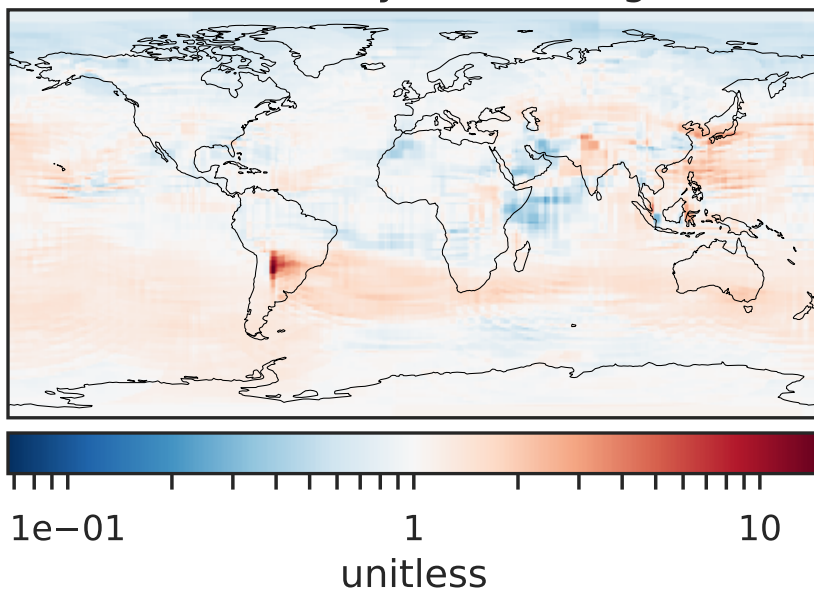
Difference (1x1.25)  
Dev - Ref, Dynamic Range



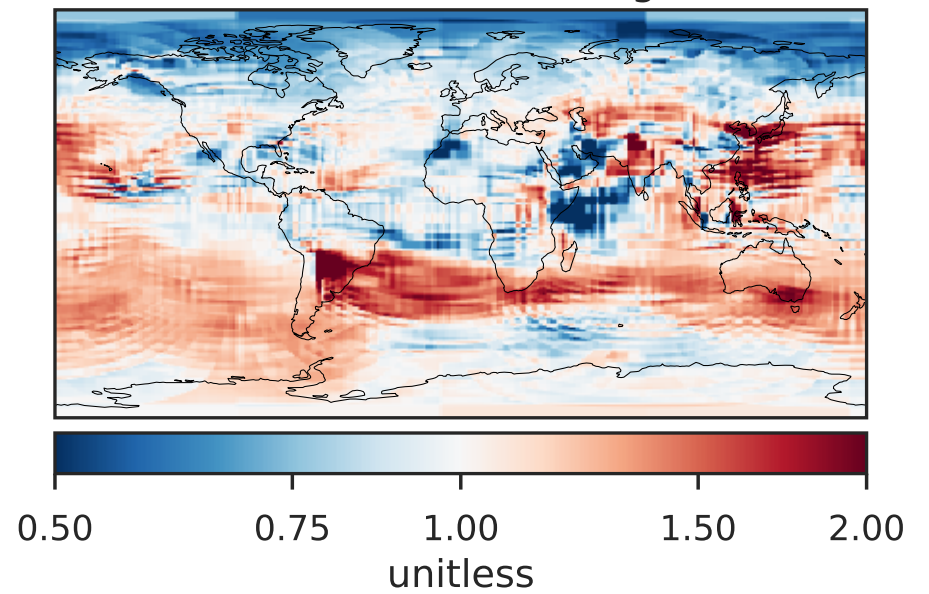
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range

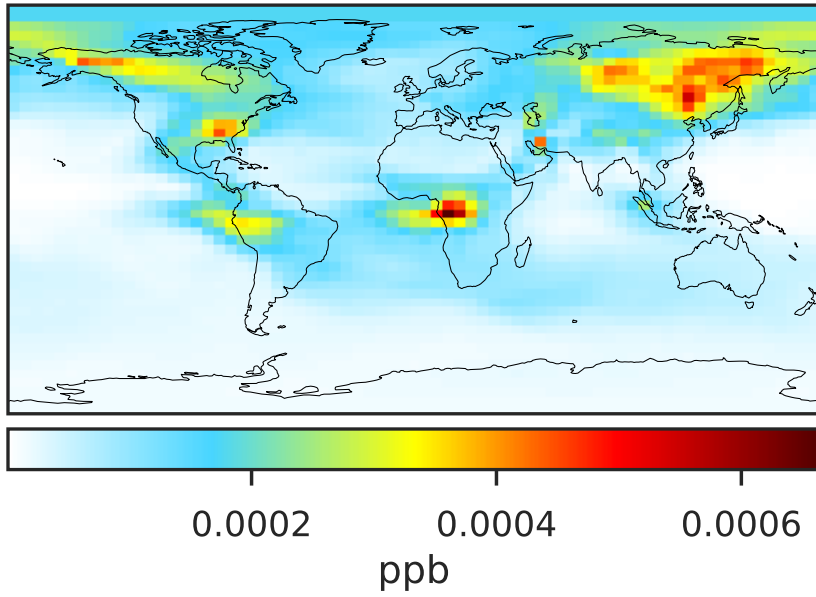


Ratio (1x1.25)  
Dev/Ref, Fixed Range

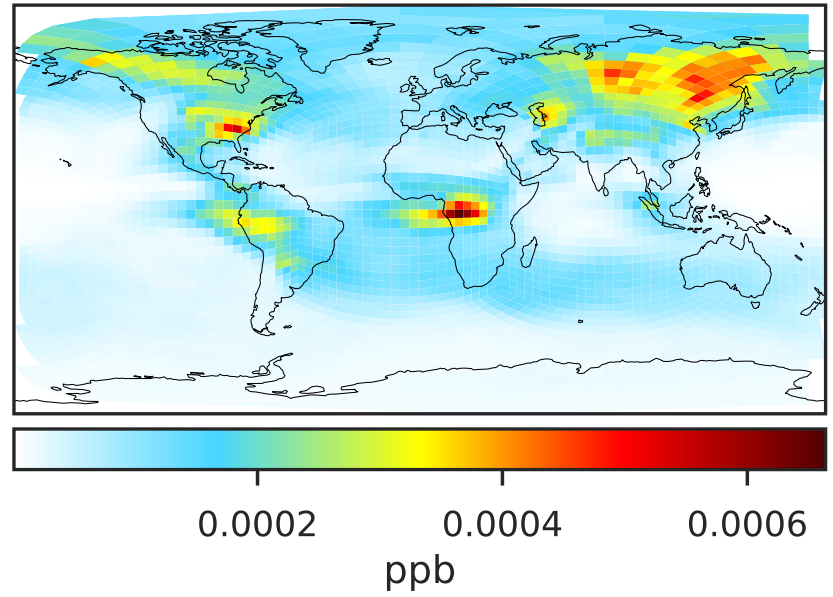


# SpeciesConcVW\_ETHN (Jul2019)

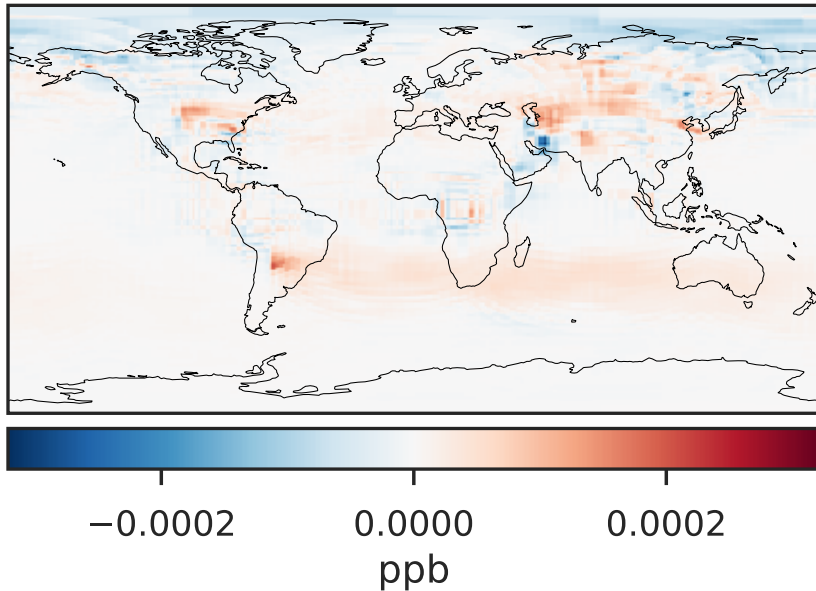
GCC\_14.2.0 (Ref)  
4.0x5.0



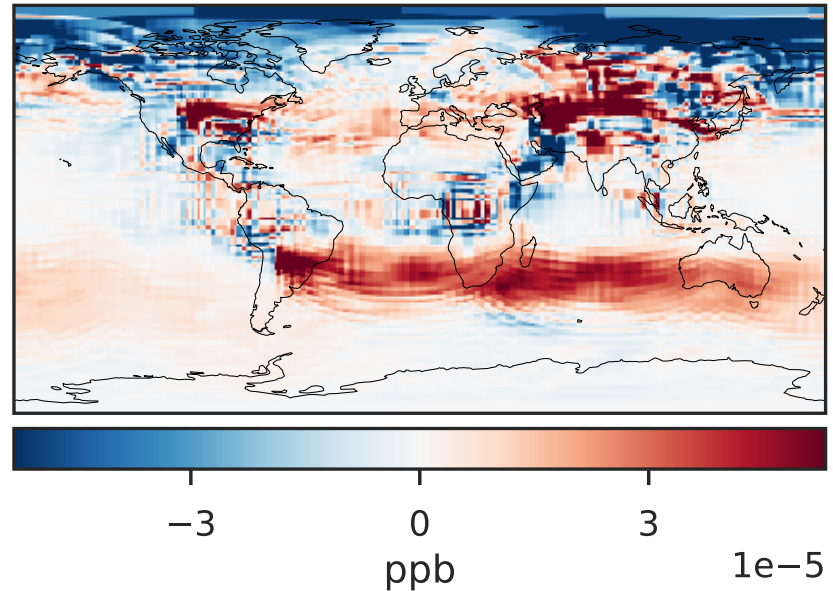
GCHP\_14.2.0 (Dev)  
c24



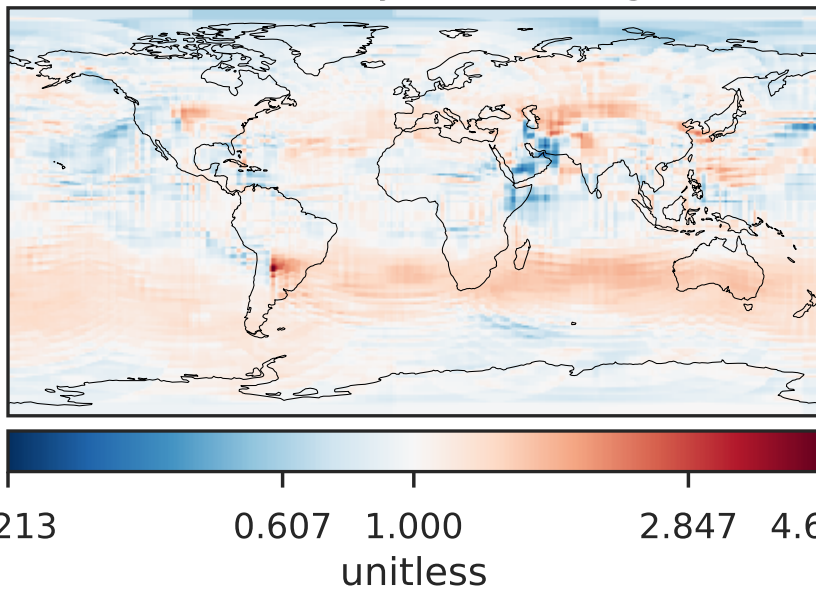
Difference (1x1.25)  
Dev - Ref, Dynamic Range



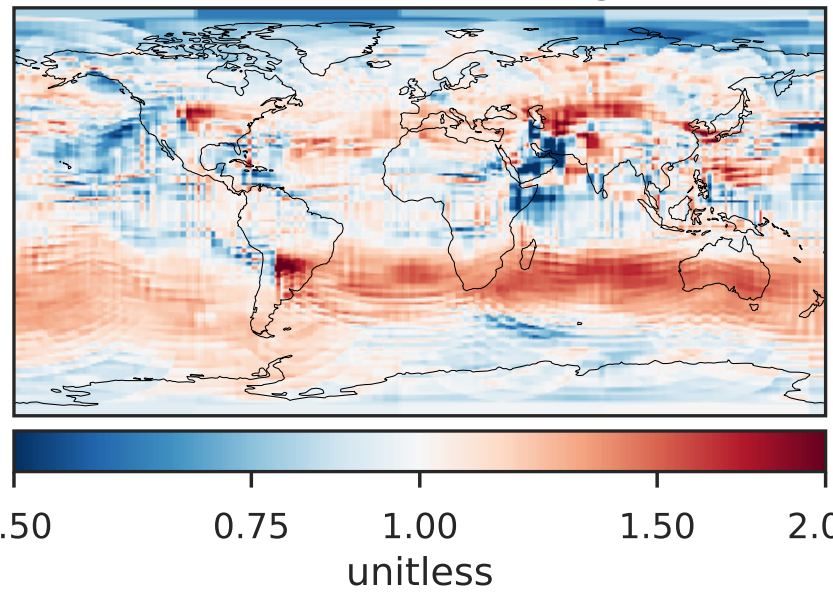
Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



Ratio (1x1.25)  
Dev/Ref, Dynamic Range



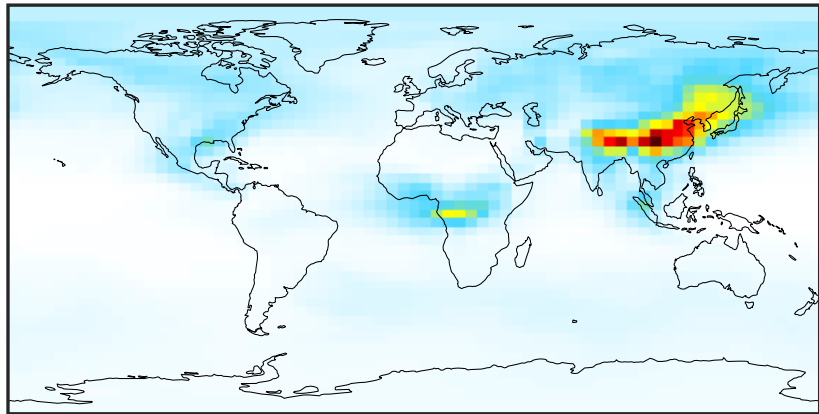
Ratio (1x1.25)  
Dev/Ref, Fixed Range





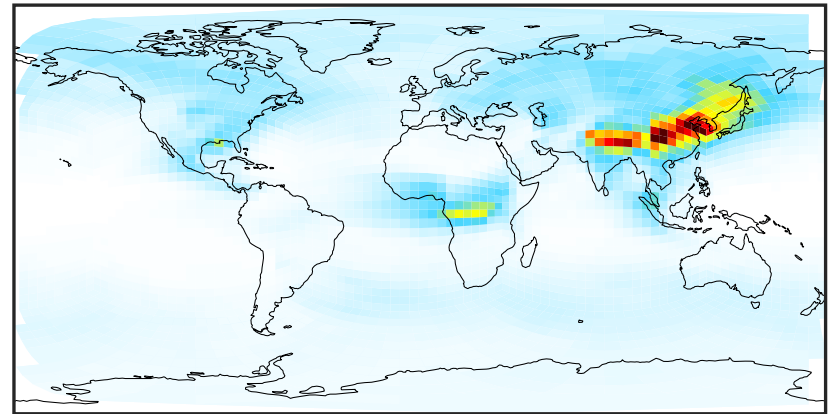
# SpeciesConcVV\_BZPAN (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



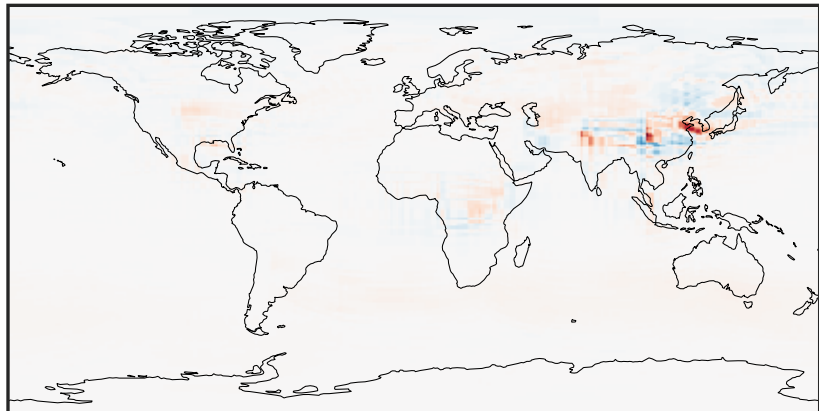
0.0002 0.0004 0.0006  
ppb

GCHP\_14.2.0 (Dev)  
c24



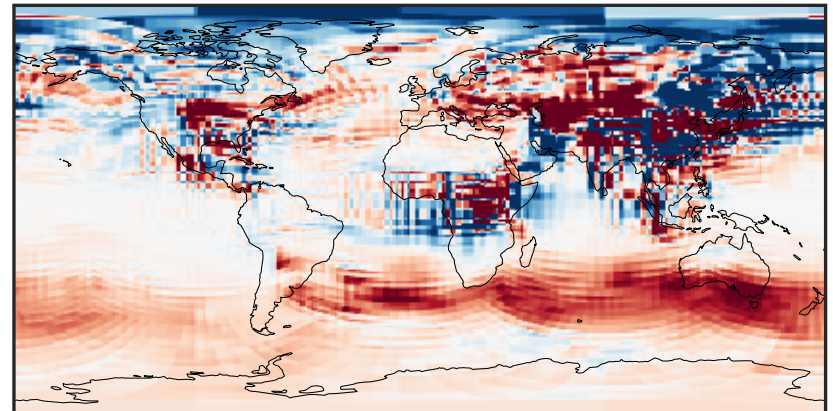
0.0002 0.0004 0.0006  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



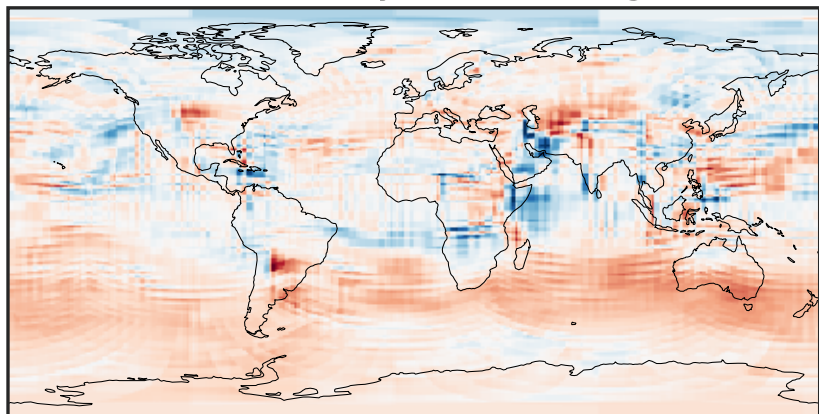
-0.0002 0.0000 0.0002  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



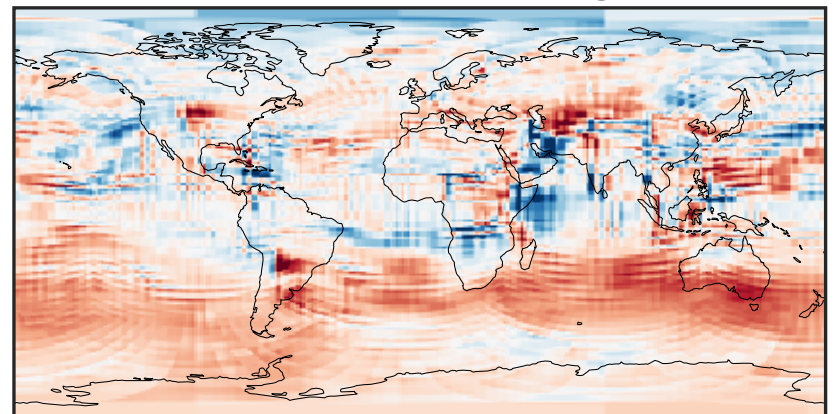
-8 0 8  
ppb 1e-6

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.351 0.676 1.000 1.924 2.849  
unitless

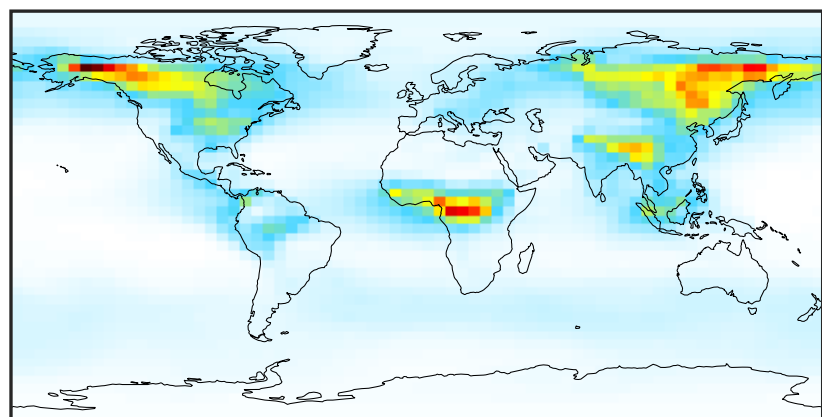
Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless

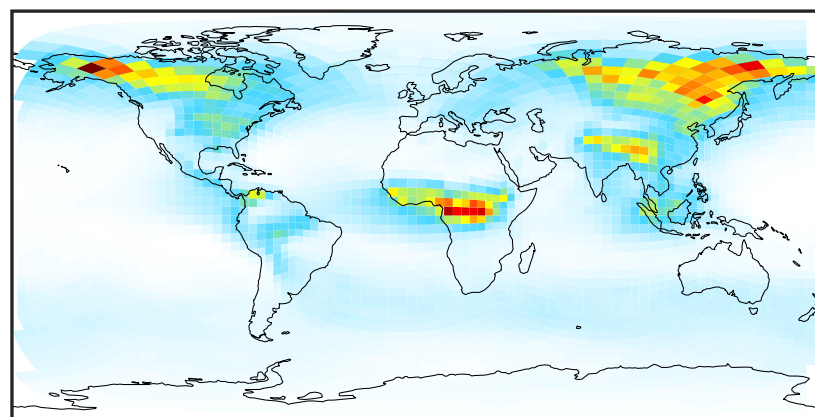
# SpeciesConcVV\_NPHEN (Jul2019)

GCC\_14.2.0 (Ref)  
4.0x5.0



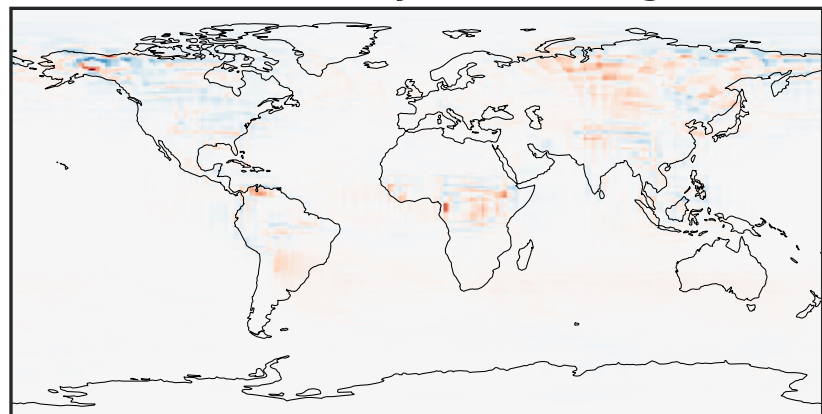
0.0001 0.0002 0.0003  
ppb

GCHP\_14.2.0 (Dev)  
c24



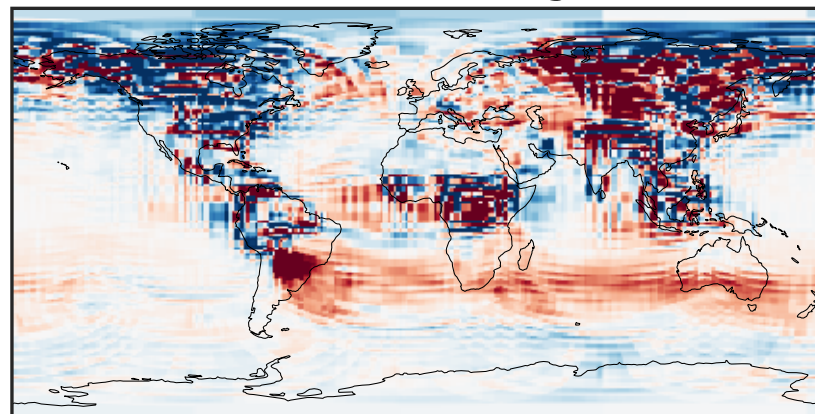
0.0001 0.0002 0.0003  
ppb

Difference (1x1.25)  
Dev - Ref, Dynamic Range



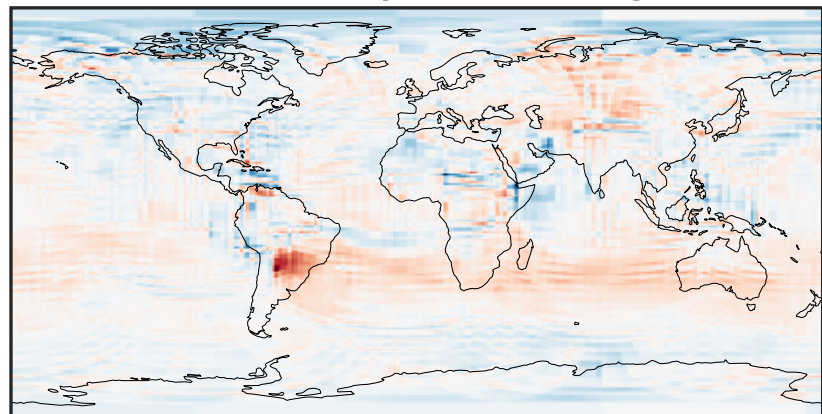
-0.0001 0.0000 0.0001  
ppb

Difference (1x1.25)  
Dev - Ref, Restricted Range [5%,95%]



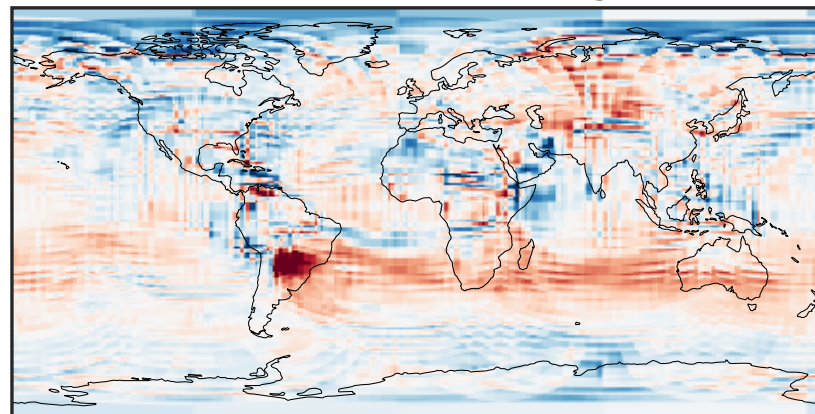
-6 0 6  
ppb  $1e-6$

Ratio (1x1.25)  
Dev/Ref, Dynamic Range



0.252 0.626 1.000 2.485 3.971  
unitless

Ratio (1x1.25)  
Dev/Ref, Fixed Range



0.50 0.75 1.00 1.50 2.00  
unitless