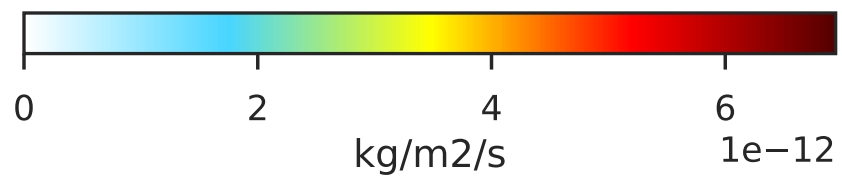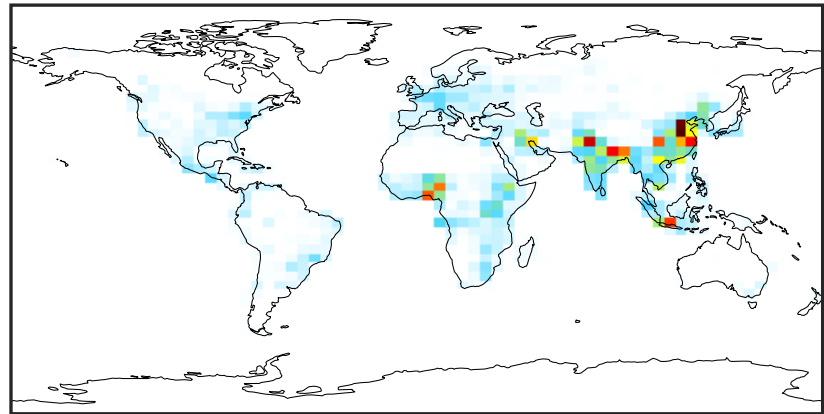# EmisEOH_Anthro (Oct2019)

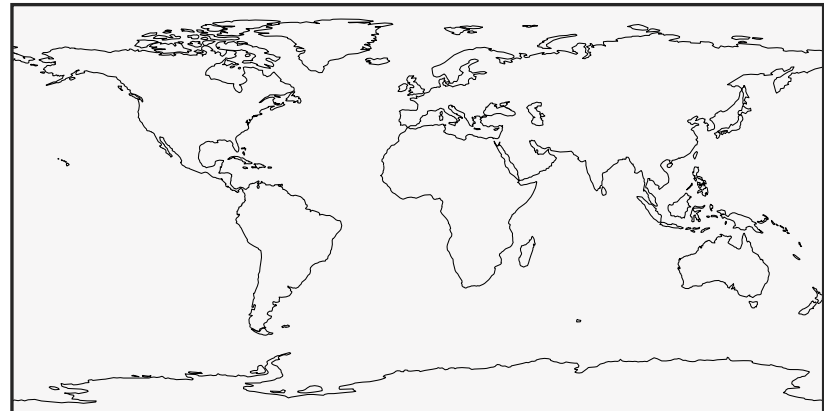| 14.2.0-rc.2 (Ref) 4.0x5.0	14.3.0-rc.0 (Dev) 4.0x5.0
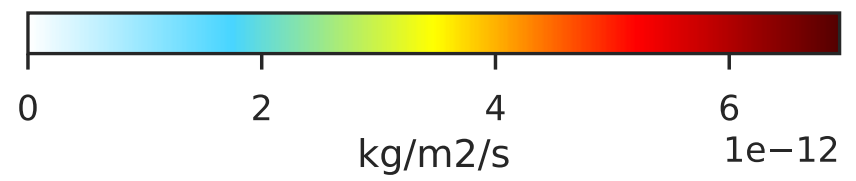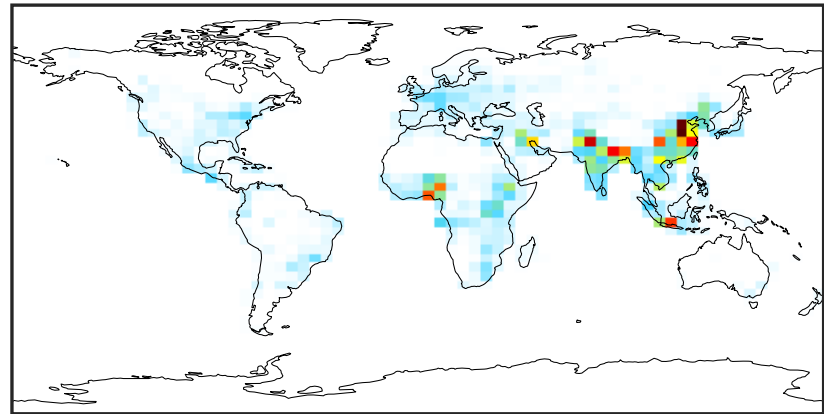
kg/m2/s   1e−12

kg/m2/s   1e−12

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
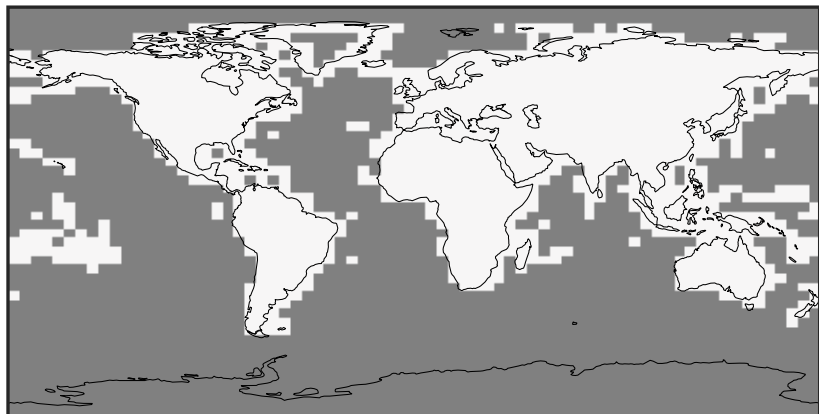
Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless
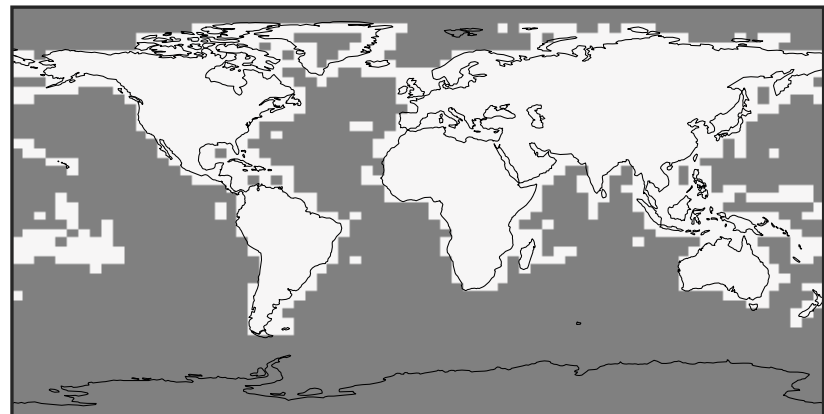
Ref and Dev equal throughout domain
unitless

EmisEOH_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
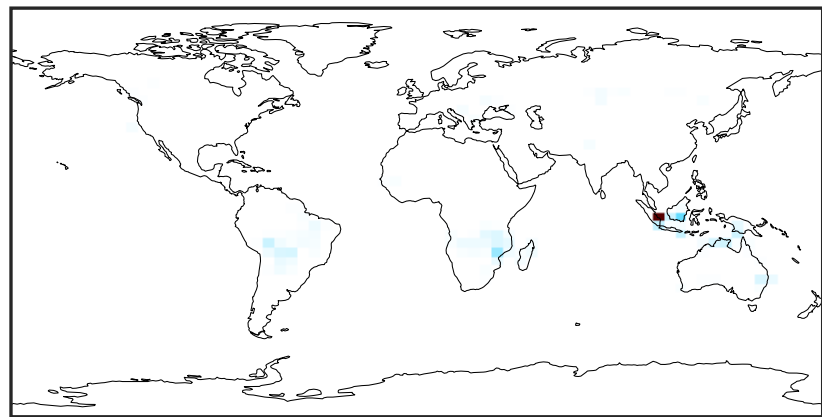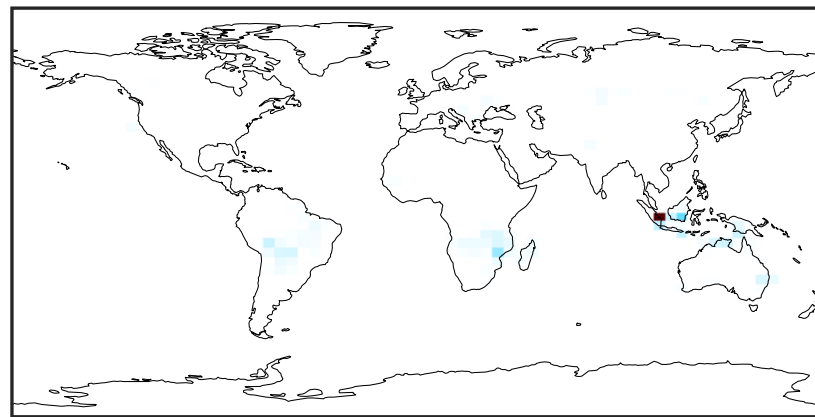
14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s
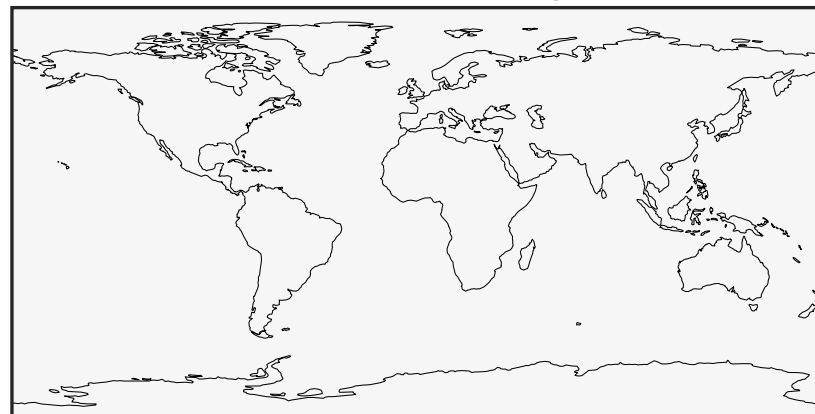
Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
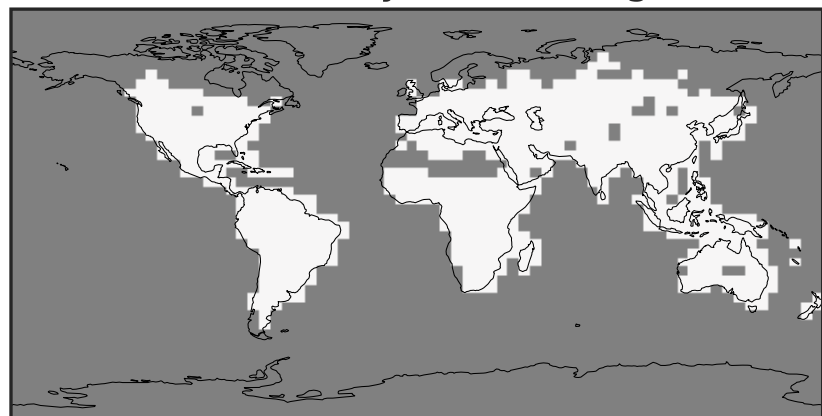
Ratio
Dev/Ref, Fixed Range
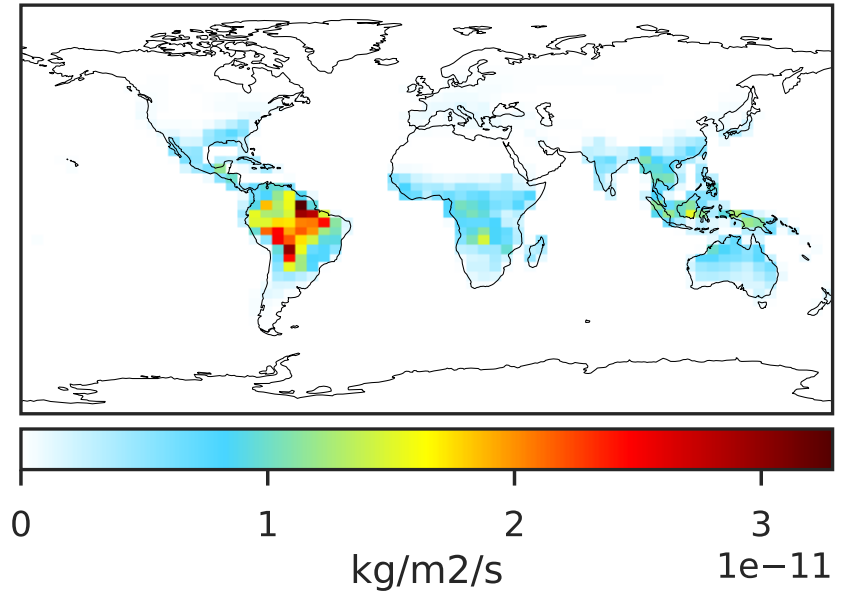
Ref and Dev equal throughout domain
unitless
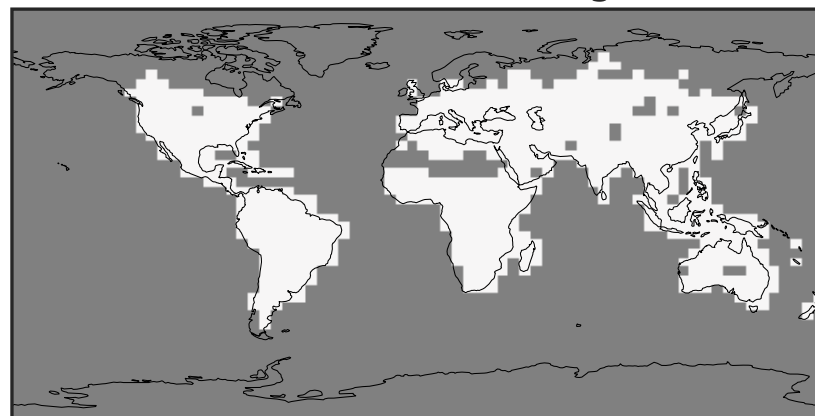
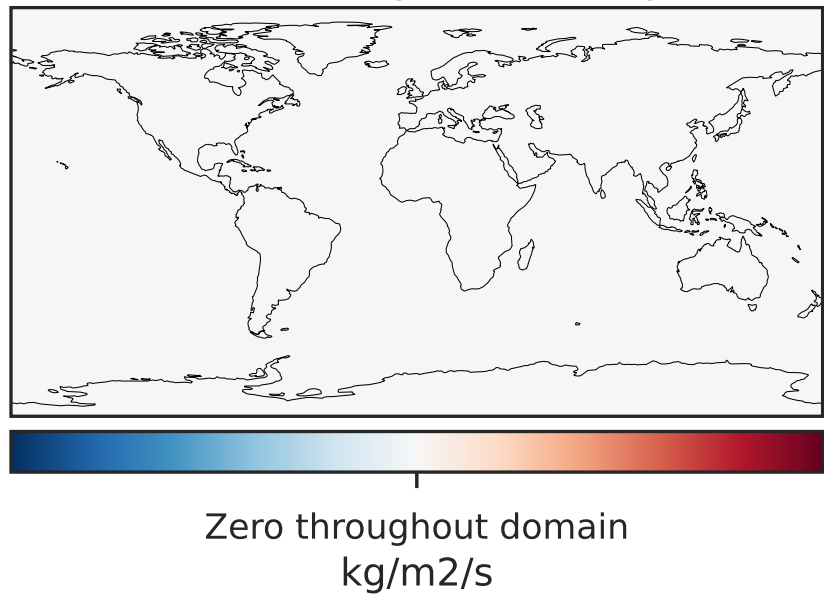Ref and Dev equal throughout domain
unitless

EmisEOH_Biogenic (Oct2019)
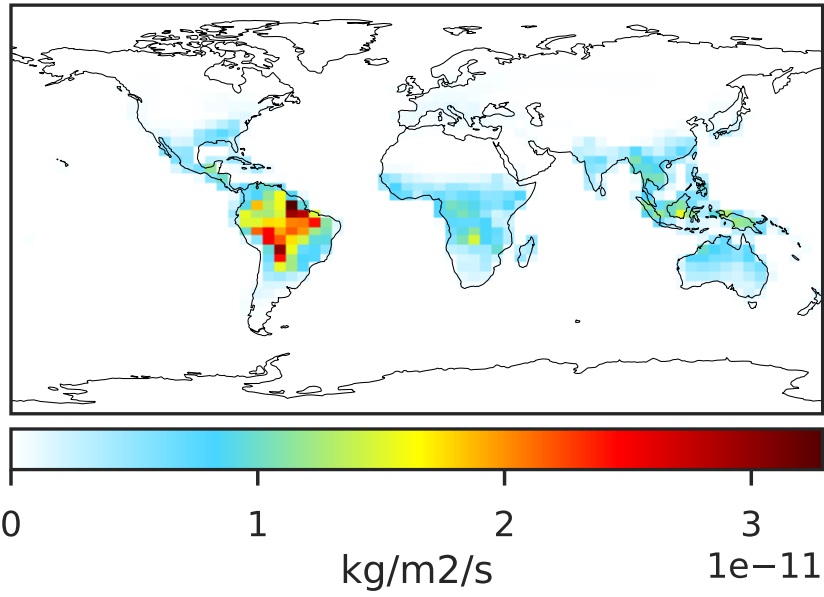
14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
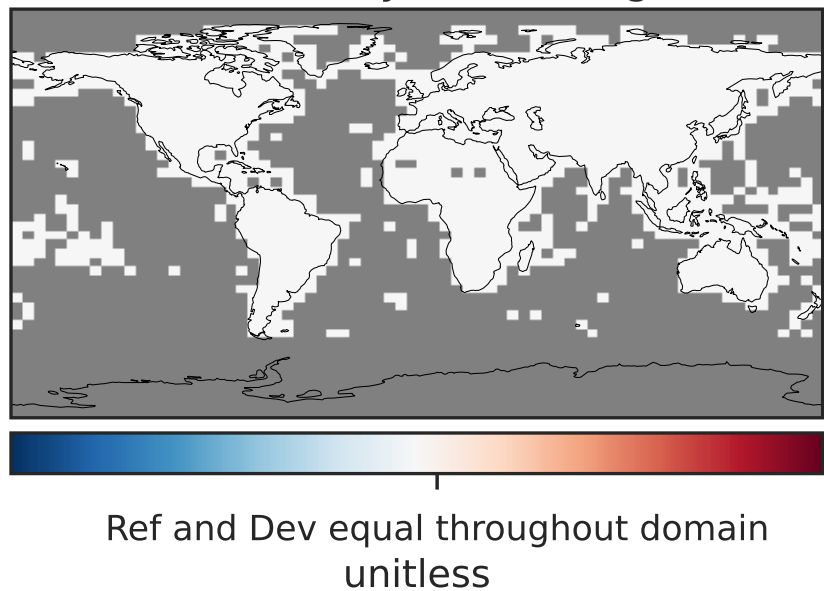### 4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless
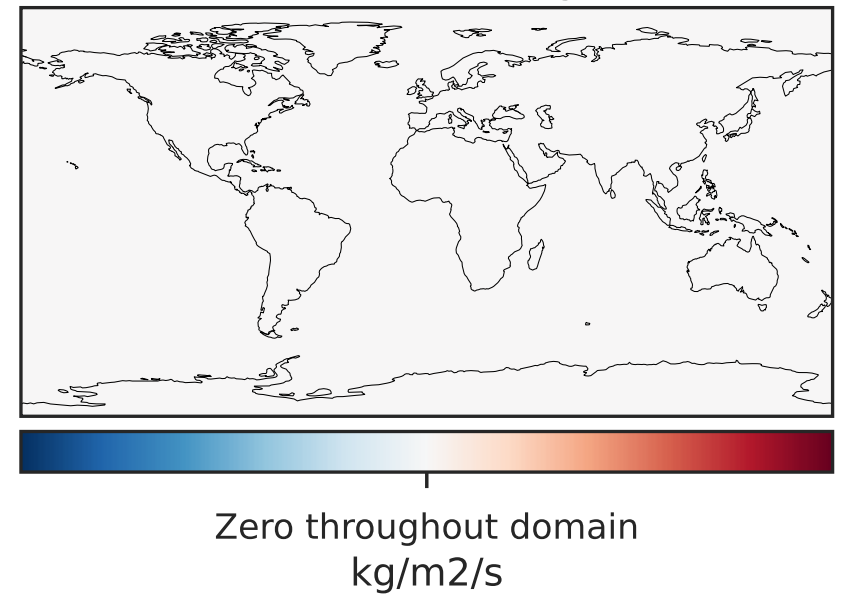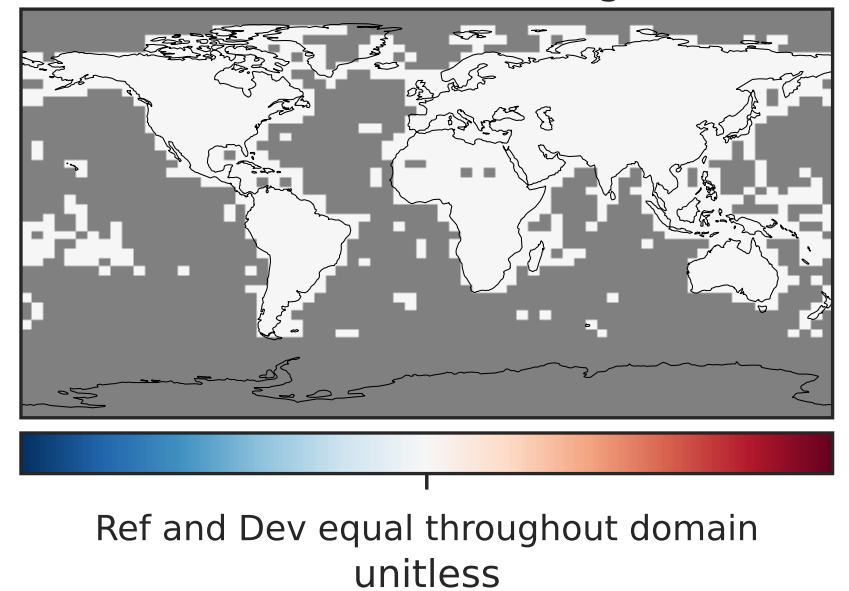
EmisEOH_PlantDecay (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
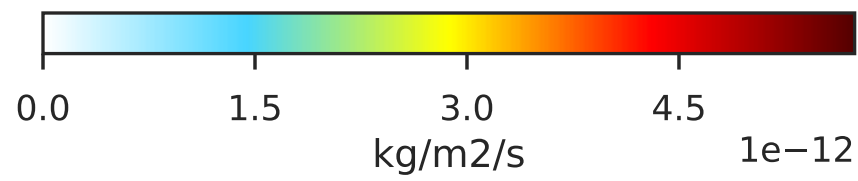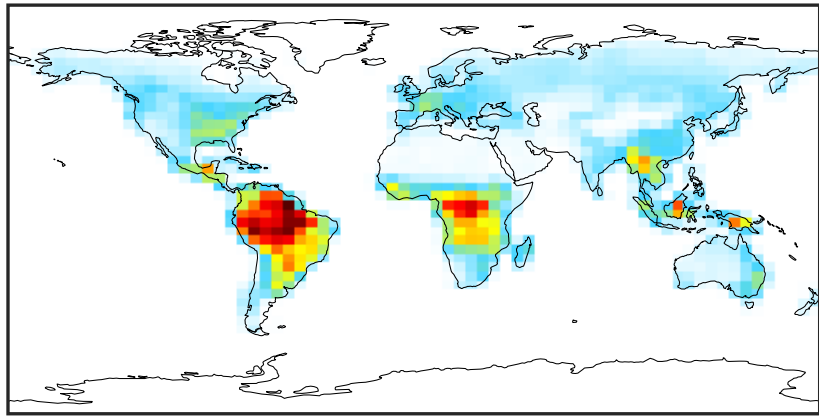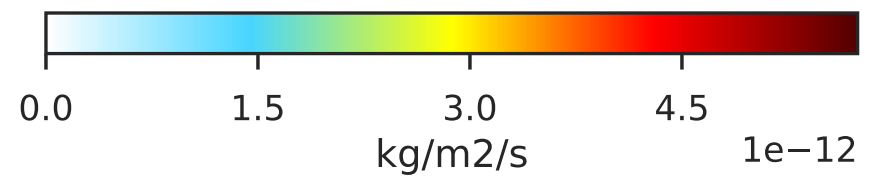
14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
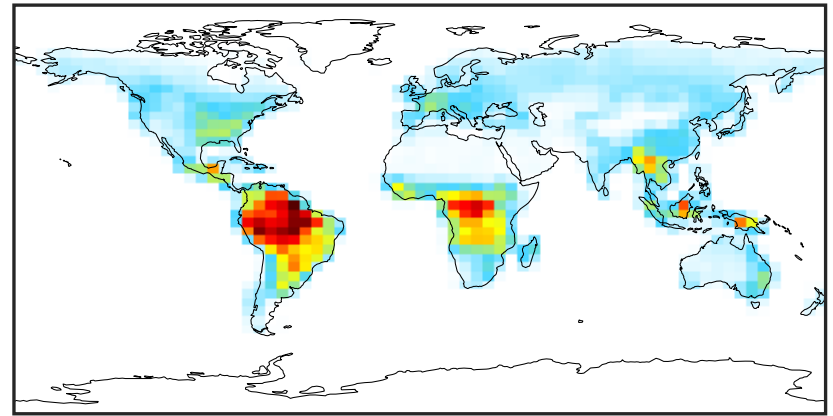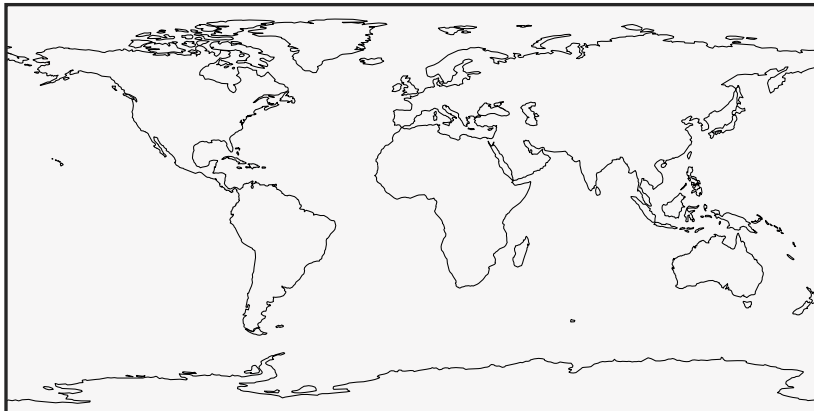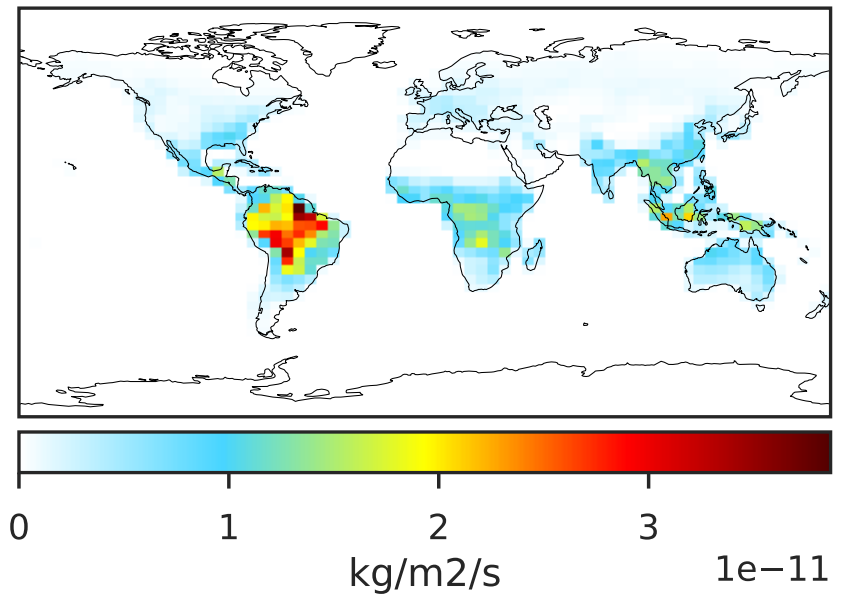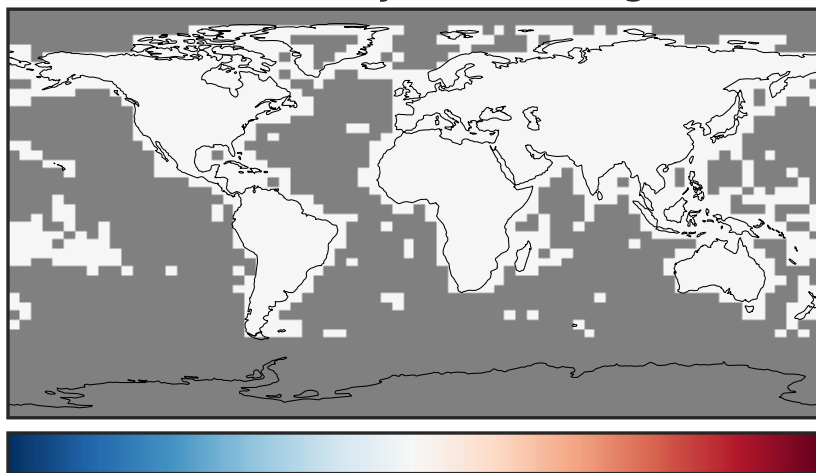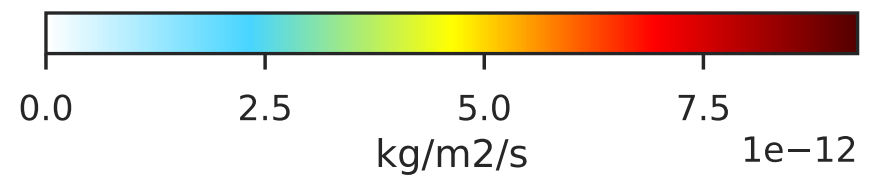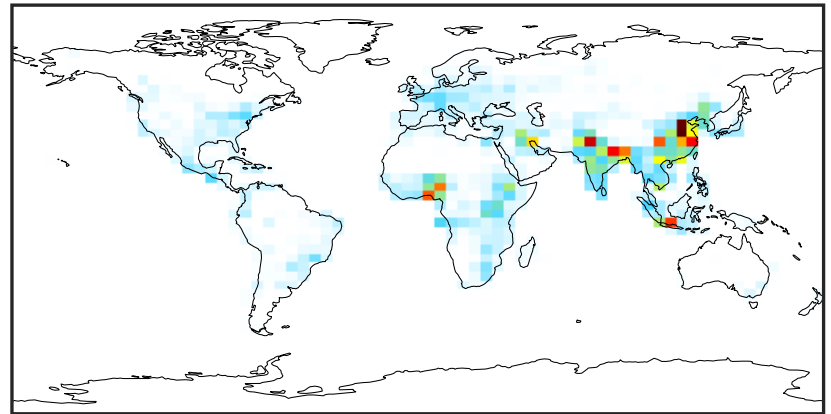kg/m2/s

Ratio
Dev/Ref, Dynamic Range
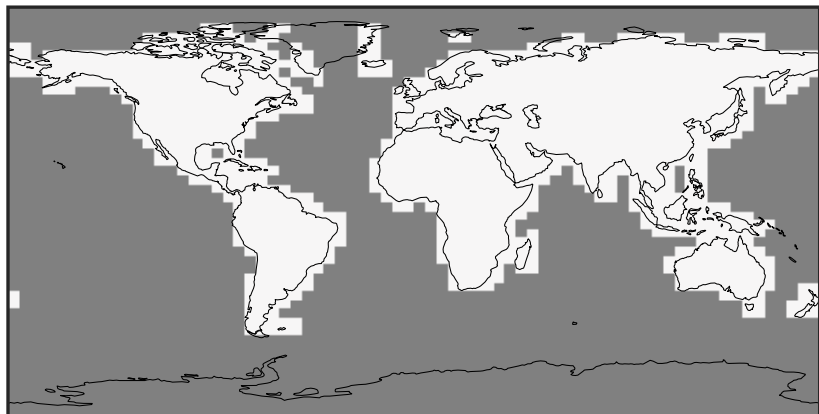
Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless
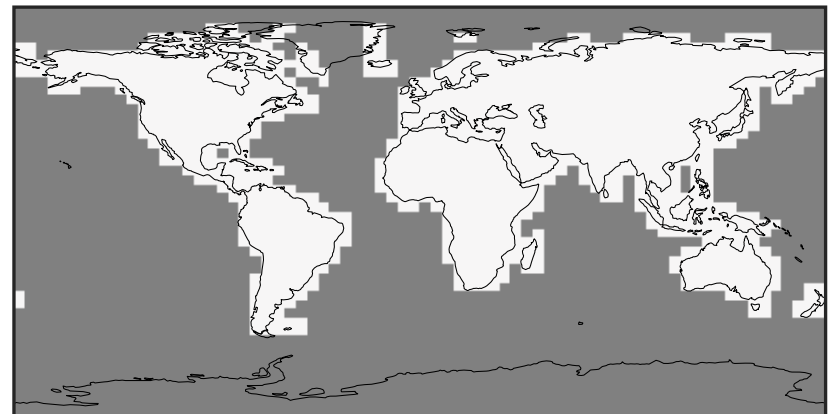
Ref and Dev equal throughout domain
unitless

EmisEOH_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
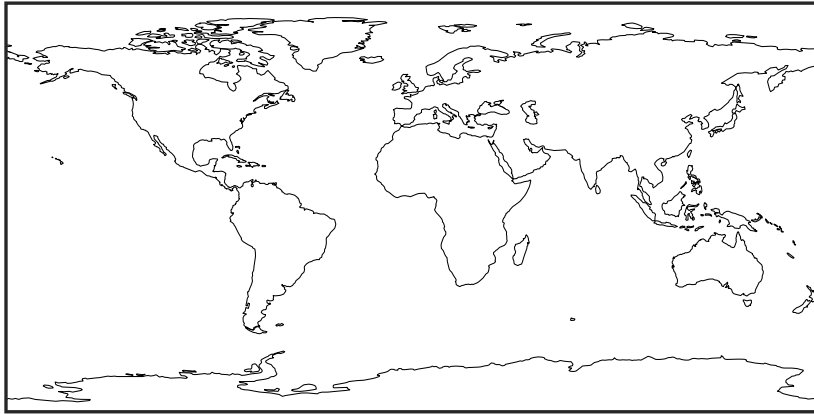
Zero throughout domain
kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0

Zero throughout domain
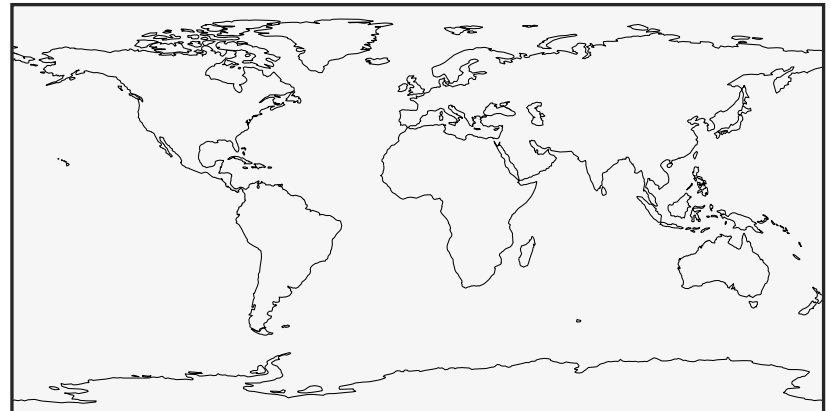kg/m2/s

Difference
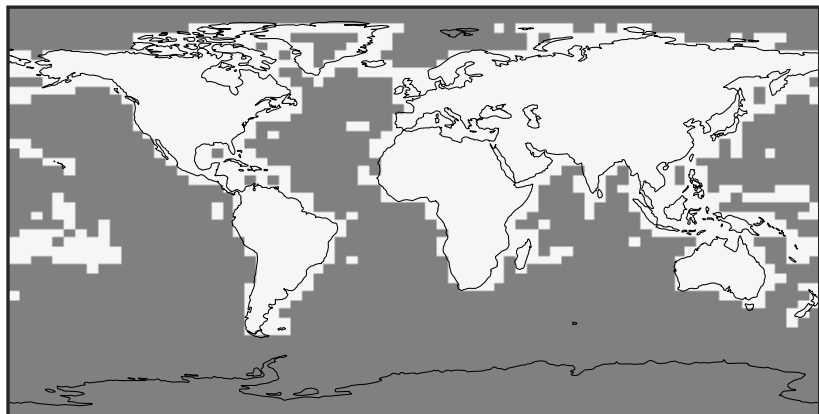### Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
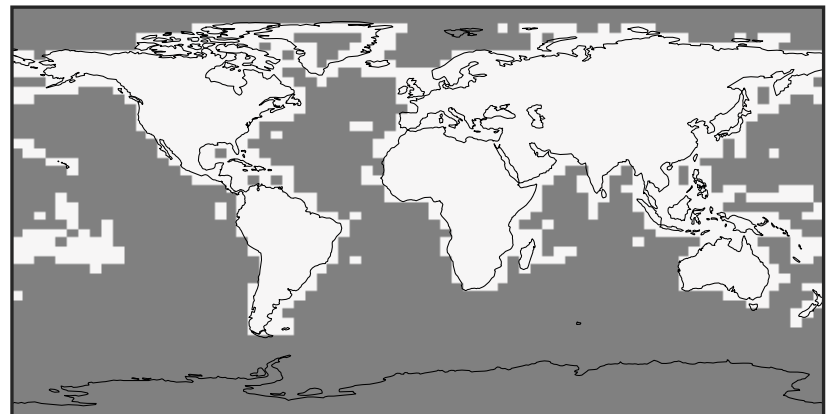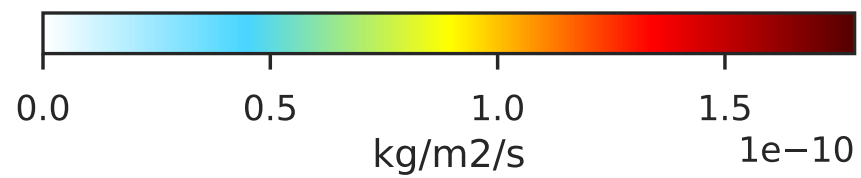### Dev - Ref, Restricted Range [5%,95%]
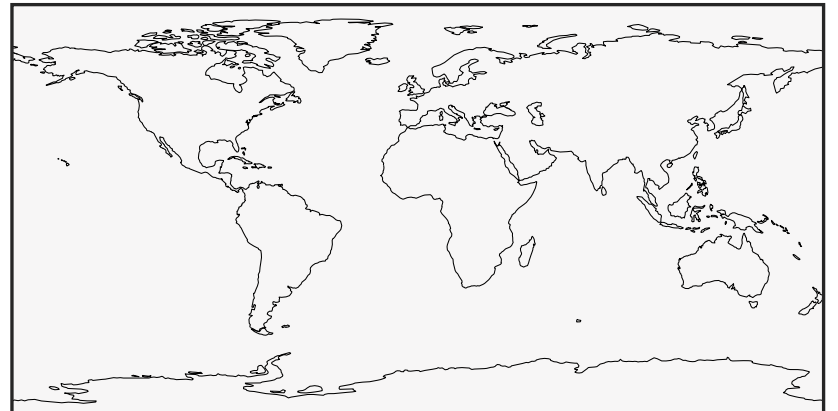
Zero throughout domain
kg/m2/s

Ratio
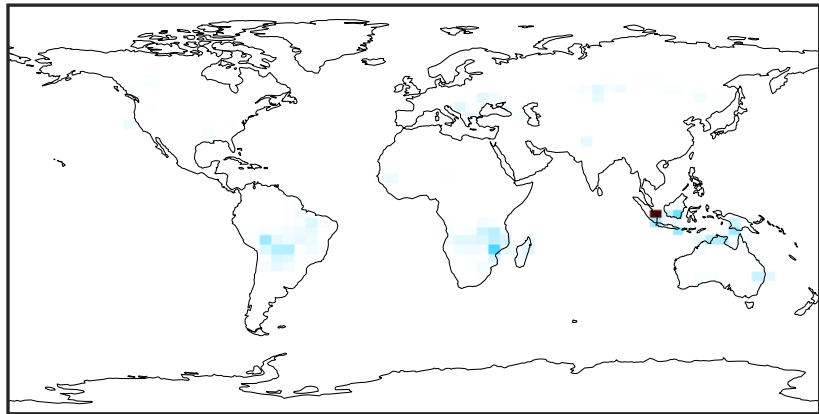### Dev/Ref, Dynamic Range
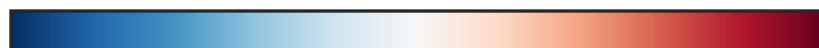
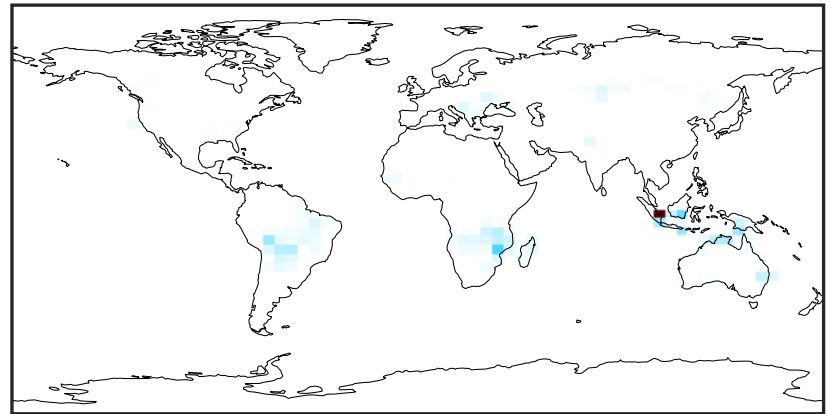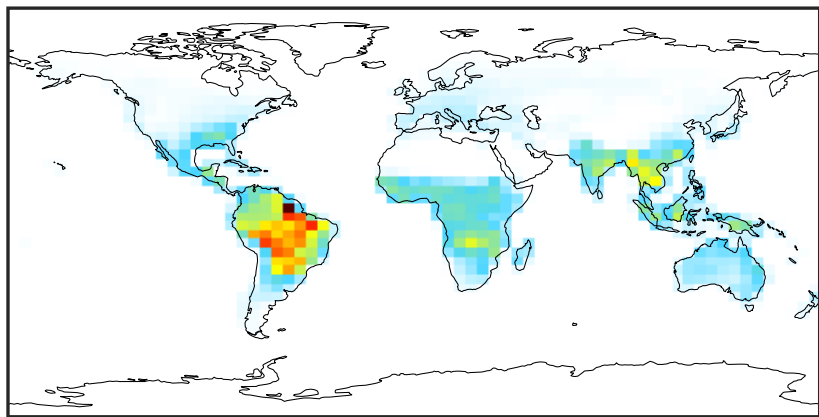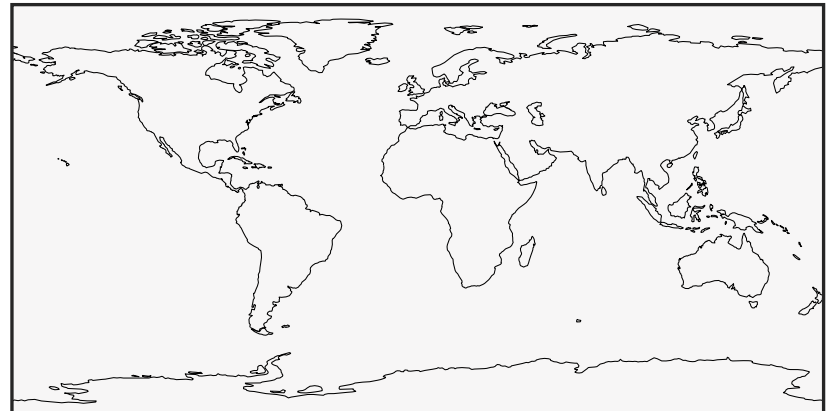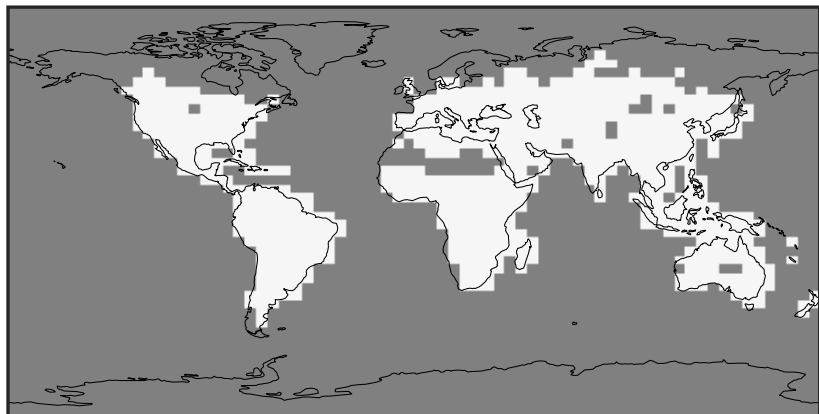Undefined throughout domain
unitless

Ratio
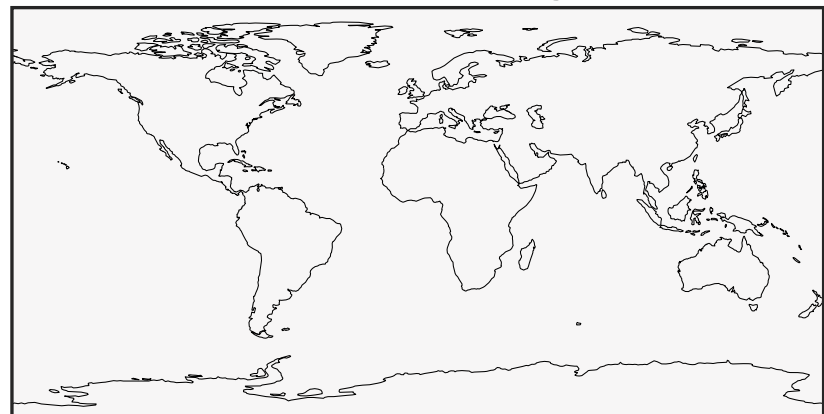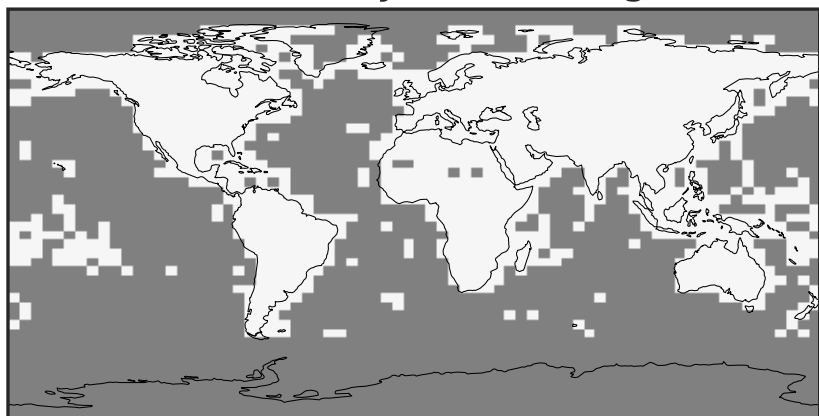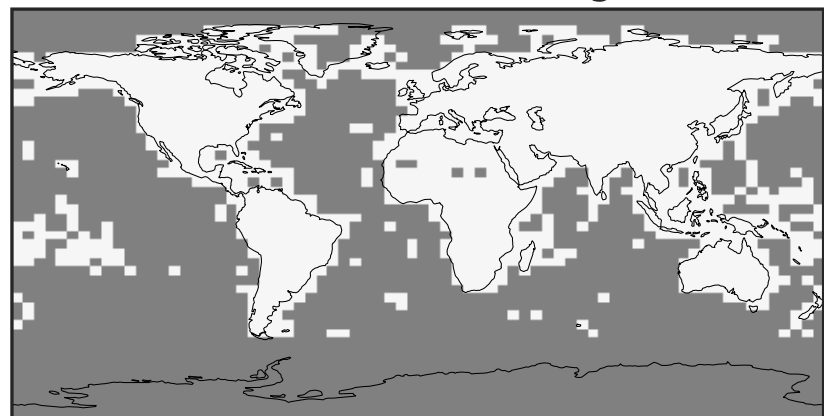### Dev/Ref, Fixed Range

Undefined throughout domain
unitless

EmisEOH_Total (Oct2019)

EmisMOH_Anthro (Oct2019)

EmisMOH_BioBurn (Oct2019)

EmisMOH_Biogenic (Oct2019)

14.2.0-rc.2 (Ref)	14.3.0-rc.0 (Dev)
4.0x5.0	4.0x5.0

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

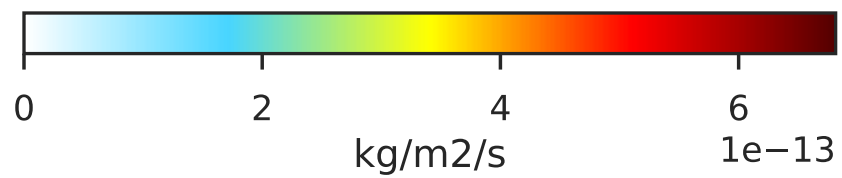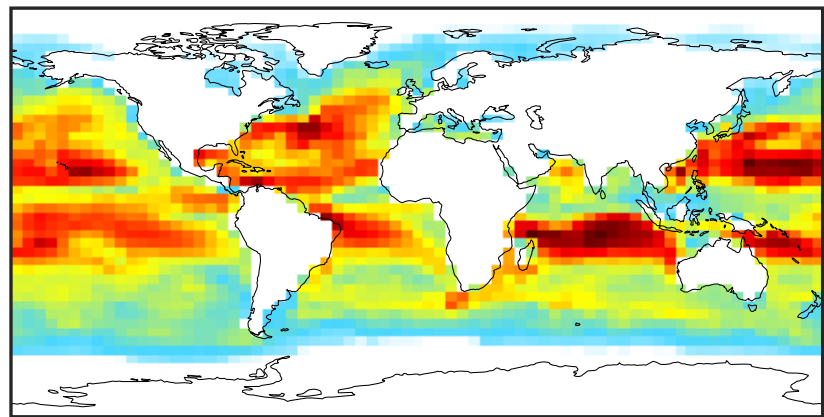Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
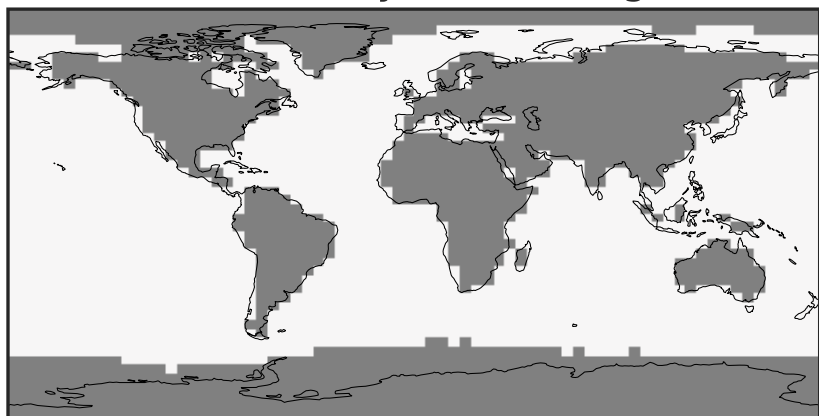Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisMOH_Ocean (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s
1e−13

kg/m2/s
1e−13

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless
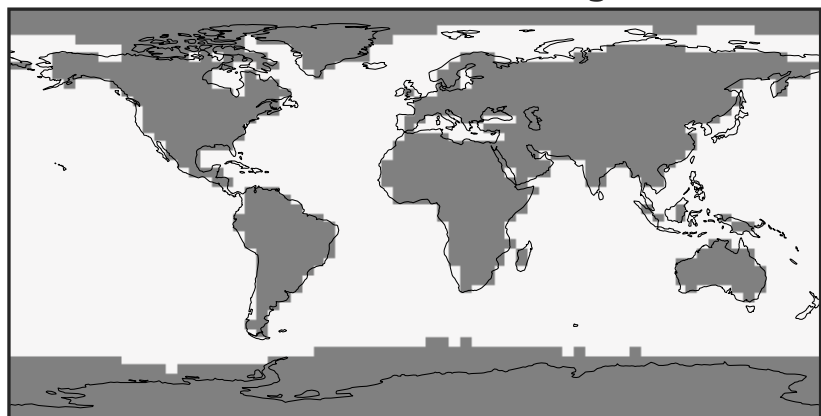
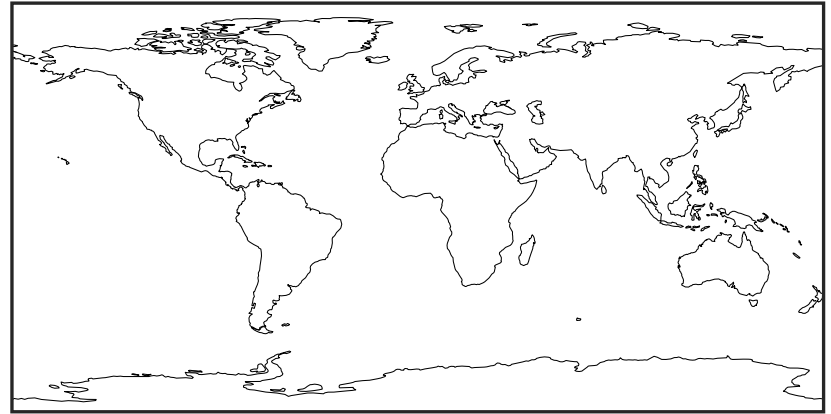Ref and Dev equal throughout domain
unitless

EmisMOH_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

Zero throughout domain
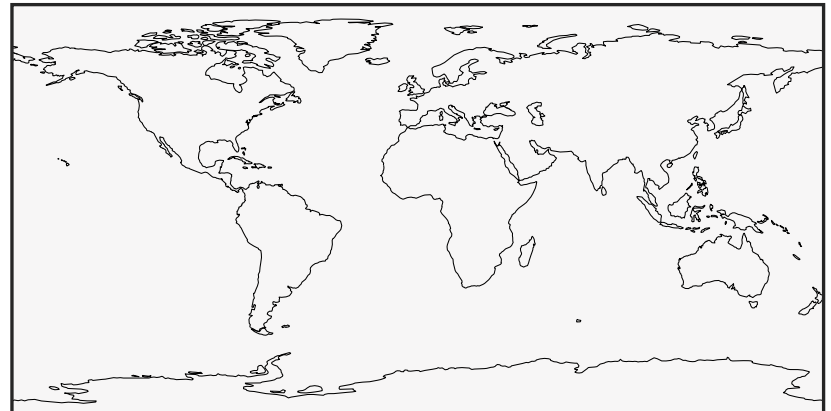kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
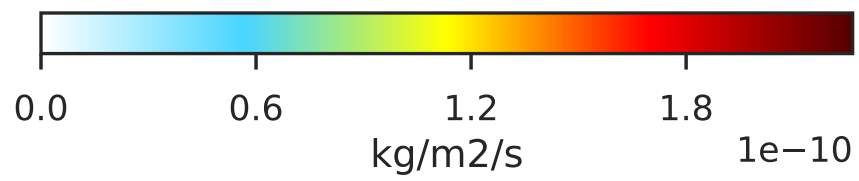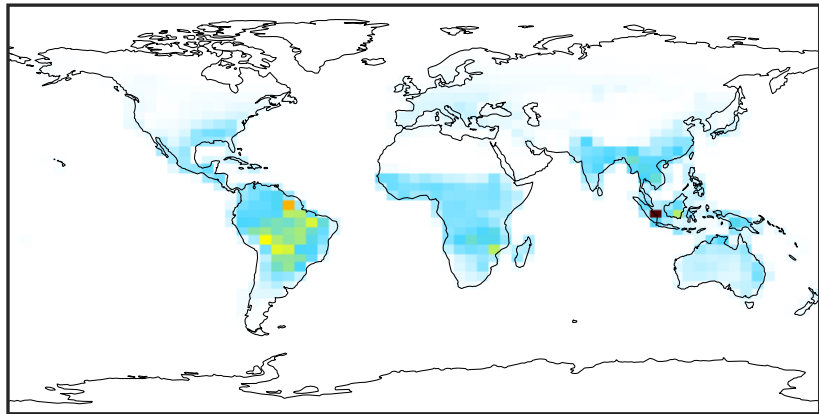### Dev/Ref, Dynamic Range

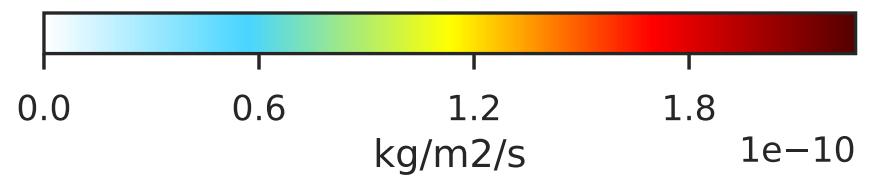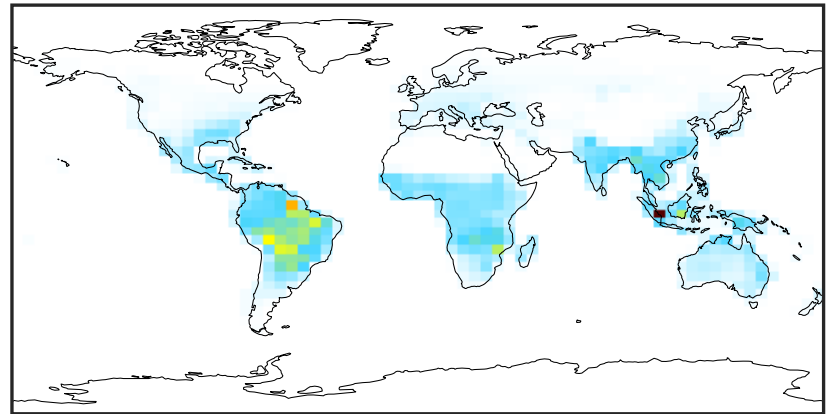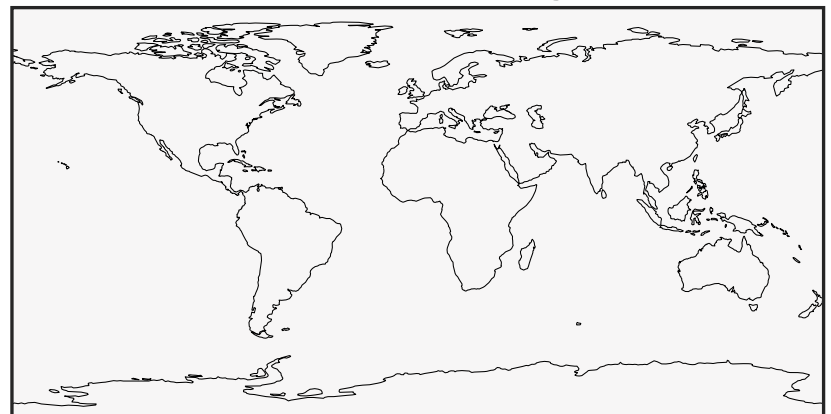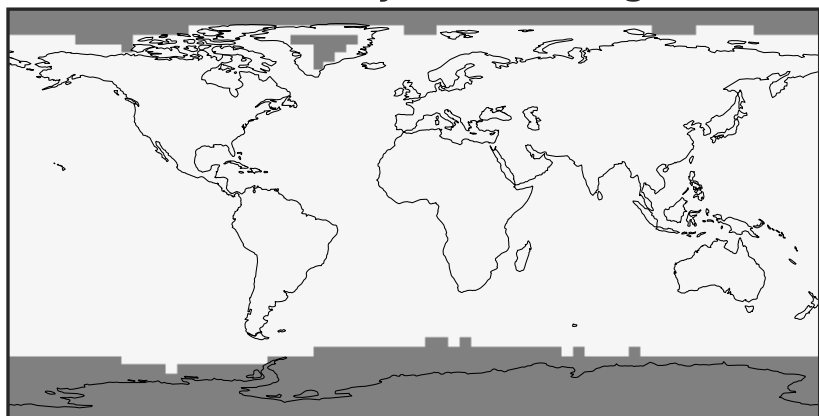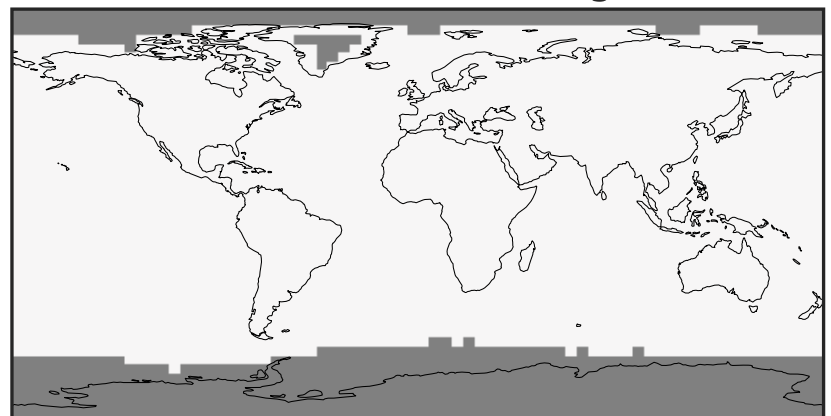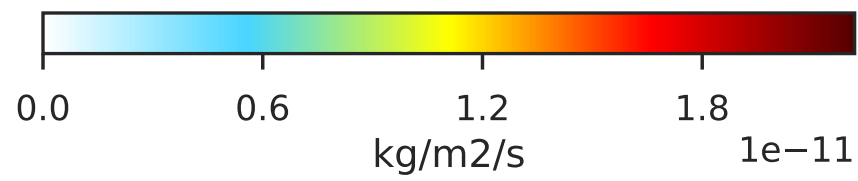Undefined throughout domain
unitless

Ratio
Dev/Ref, Fixed Range

Undefined throughout domain
unitless

EmisMOH_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s
1e−10

kg/m2/s
1e−10

Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
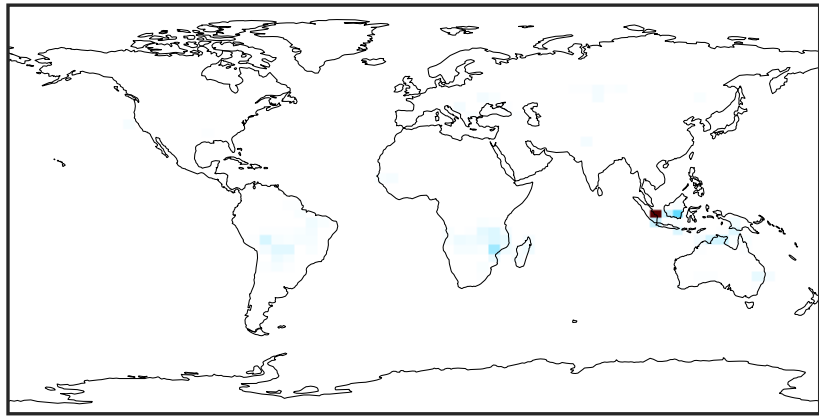### Dev/Ref, Dynamic Range

Ref and Dev equal throughout domain
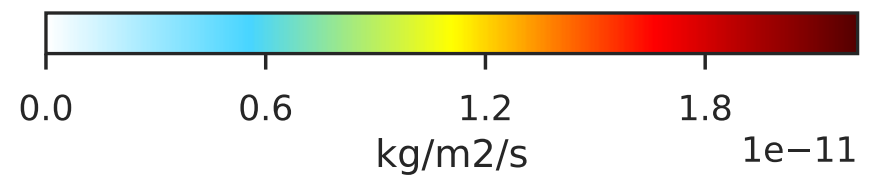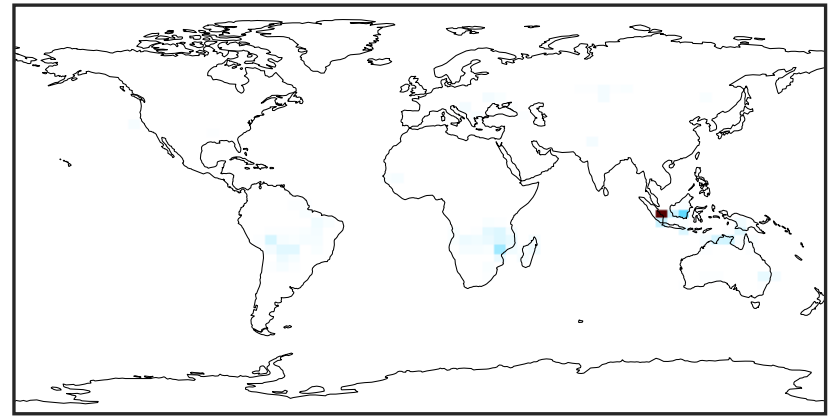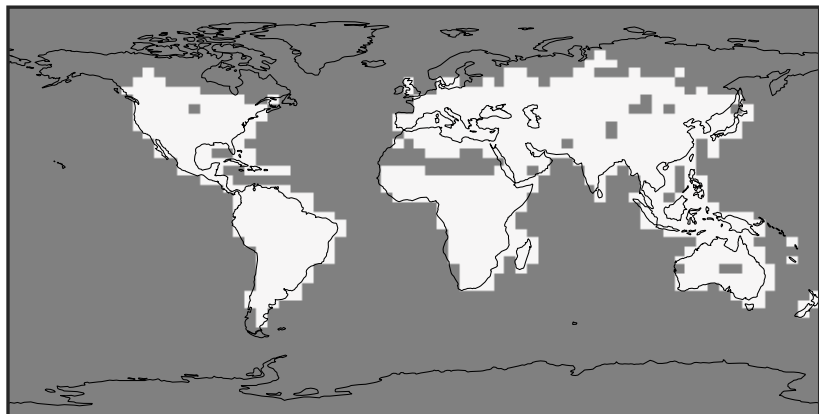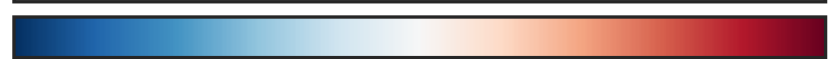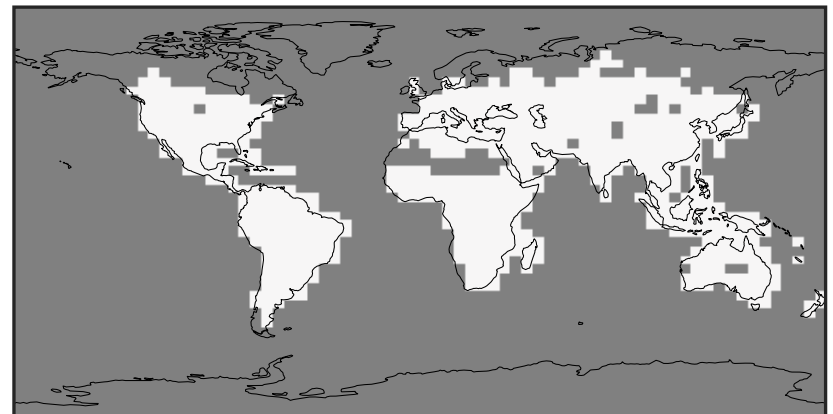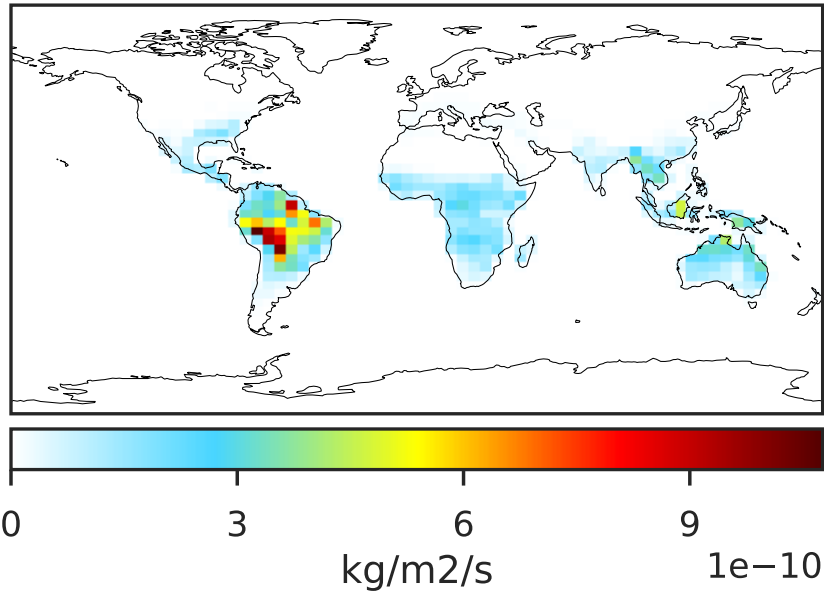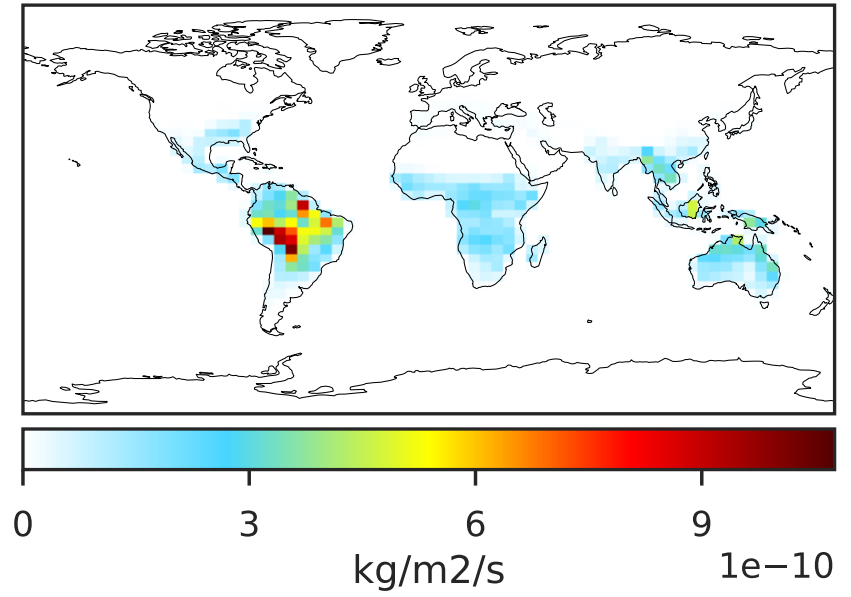unitless

Ratio
Dev/Ref, Fixed Range
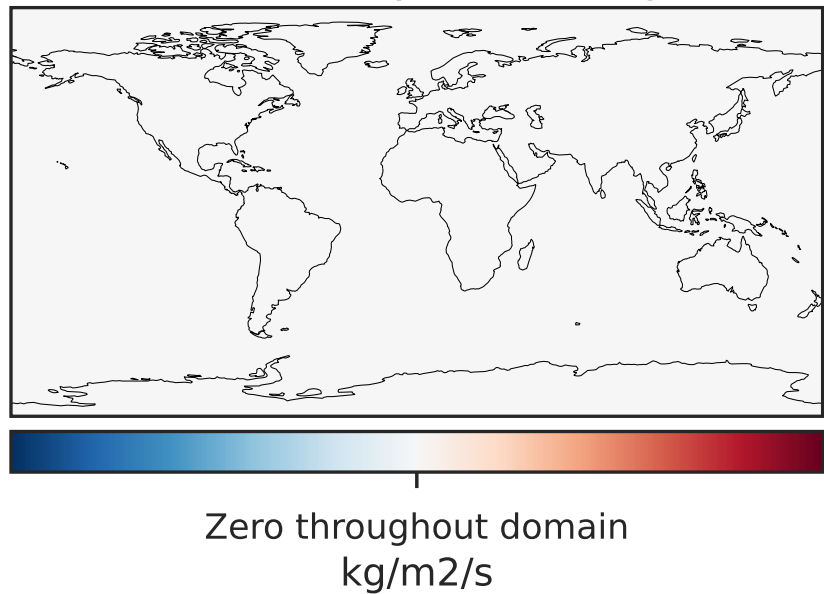
Ref and Dev equal throughout domain
unitless

EmisISOP_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
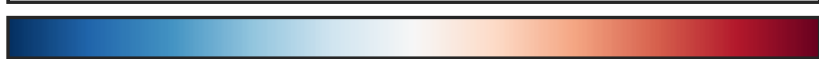
kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0

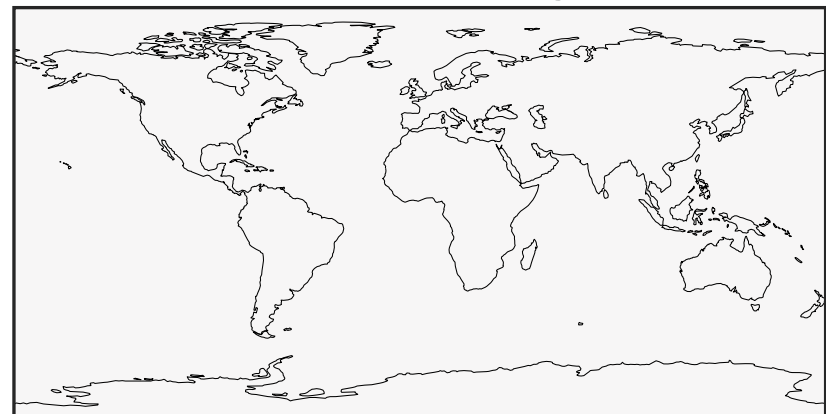kg/m2/s

Difference
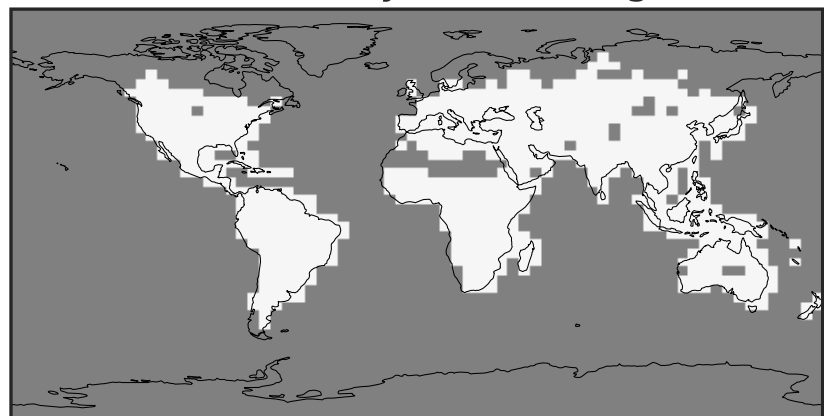### Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
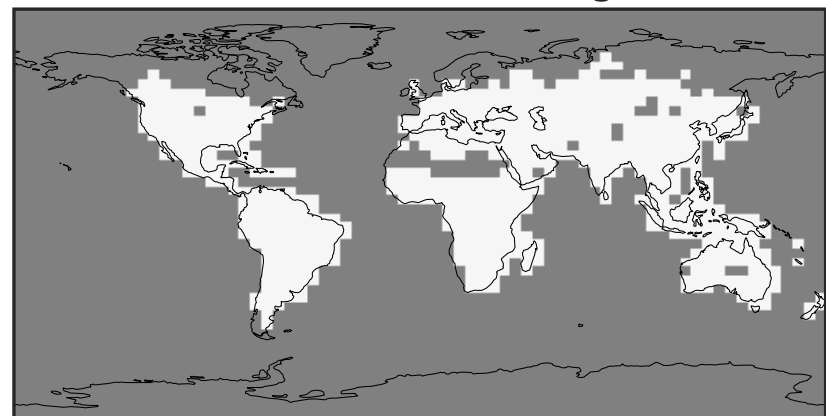### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
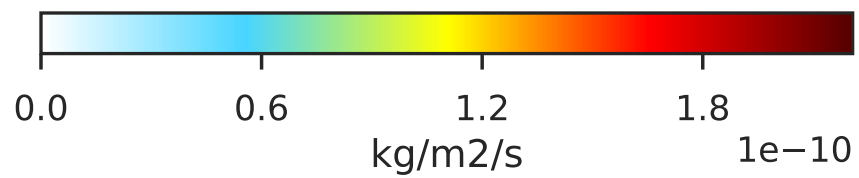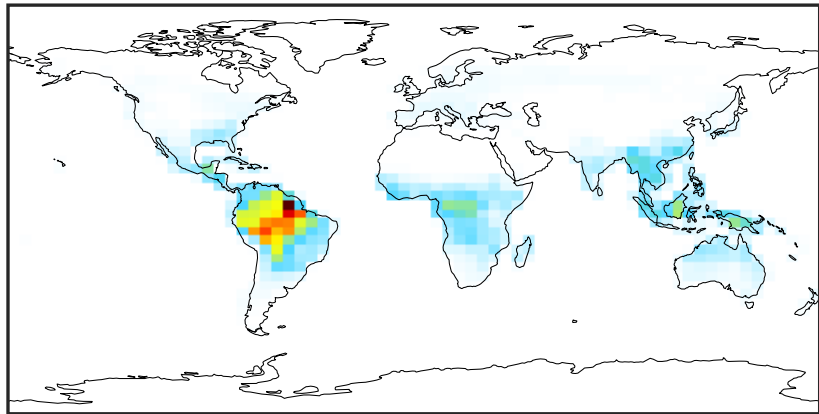

Ref and Dev equal throughout domain
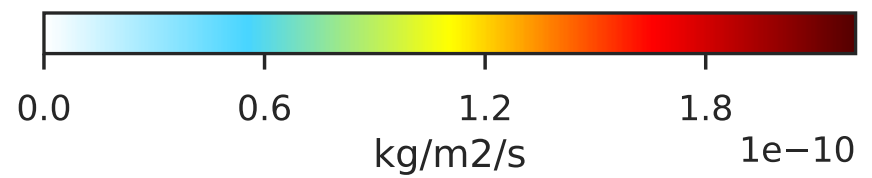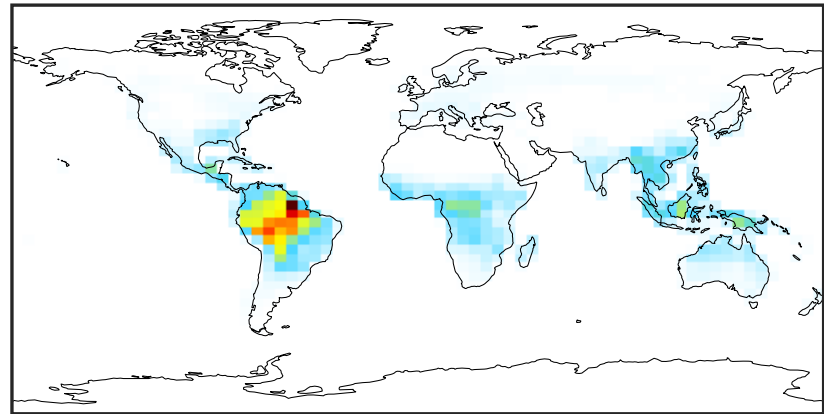unitless

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

EmisISOP_Biogenic (Oct2019)
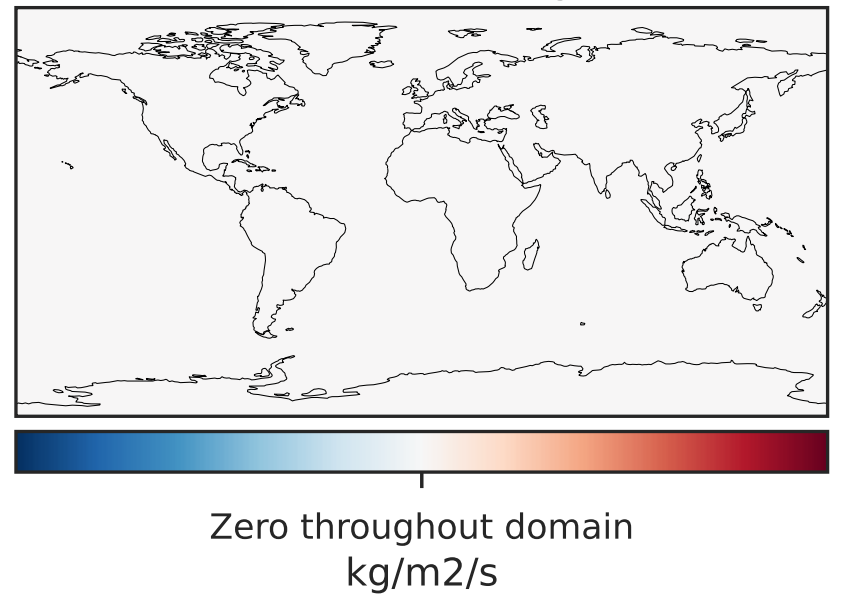
14.2.0-rc.2 (Ref)
4.0x5.0

kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0
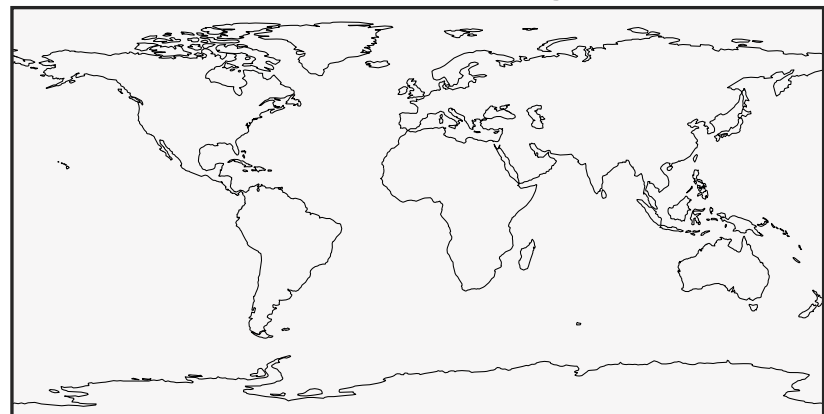

kg/m2/s

Difference
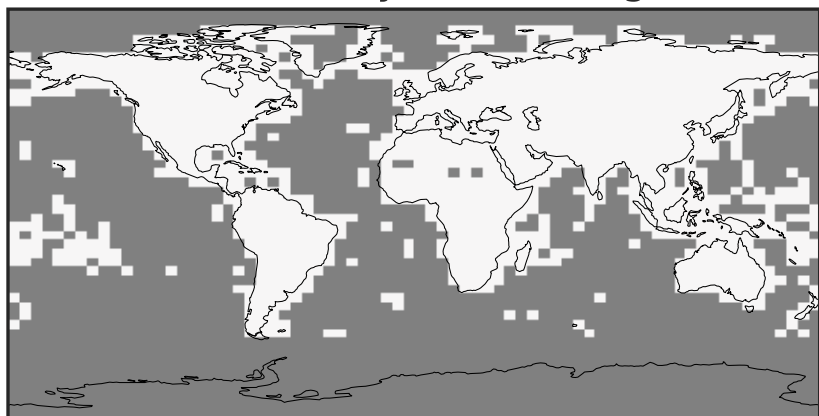### Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
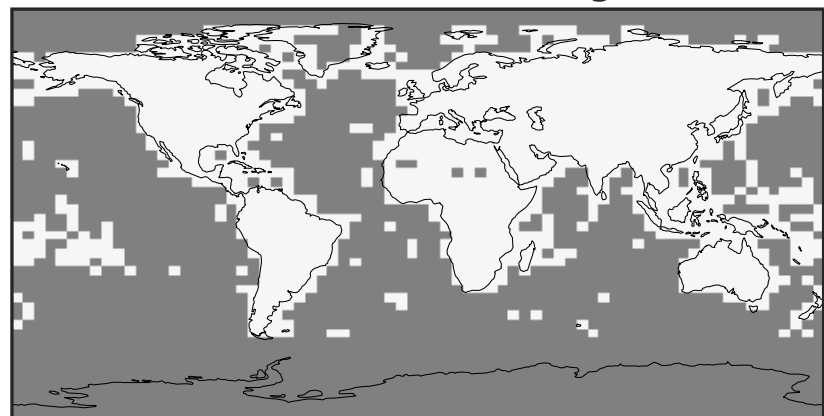### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
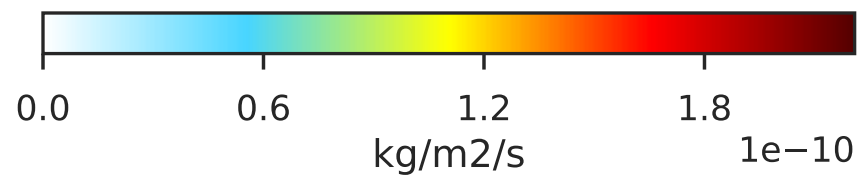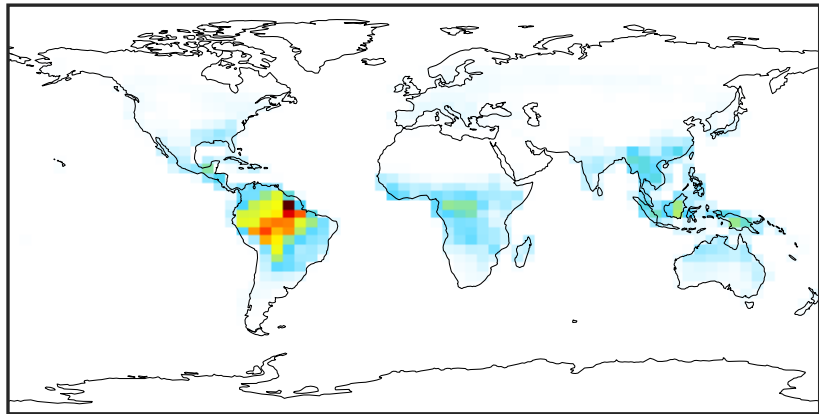

Ref and Dev equal throughout domain
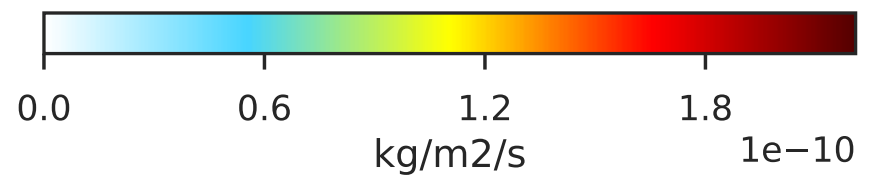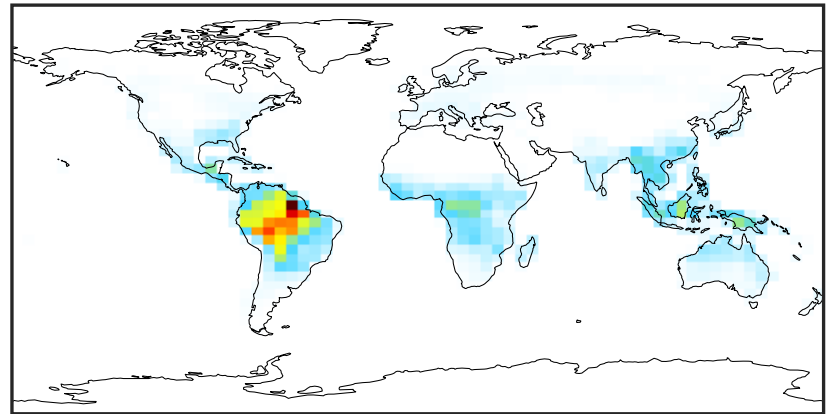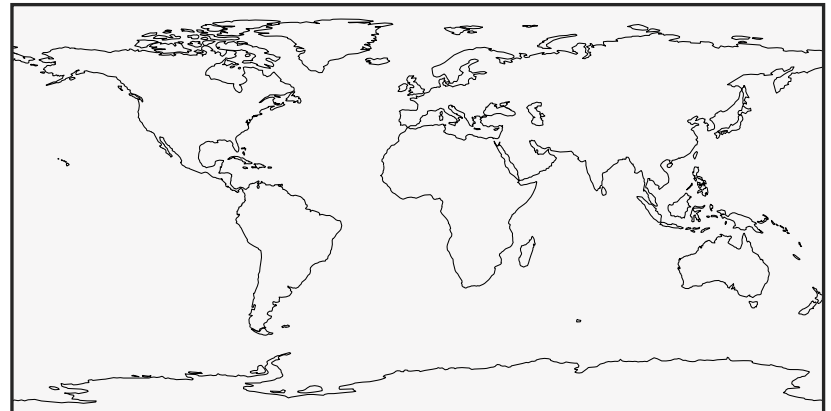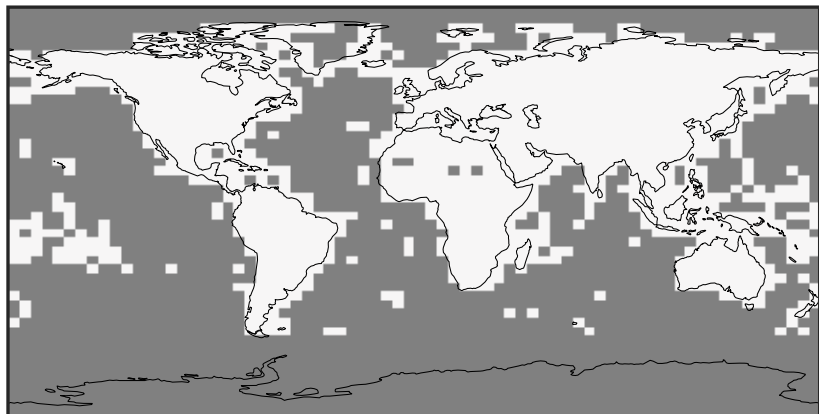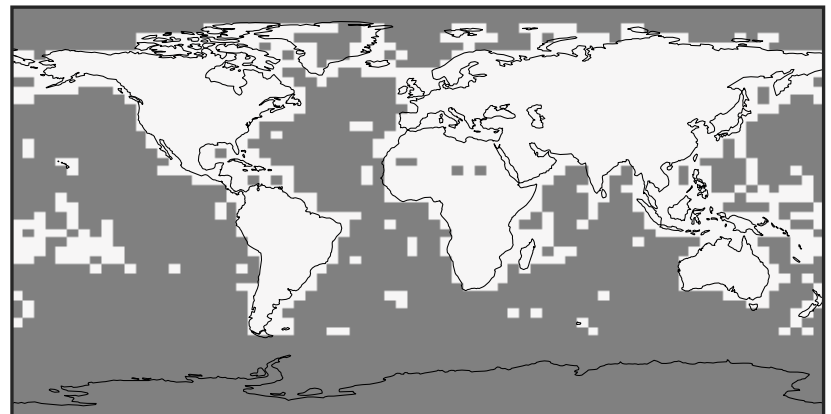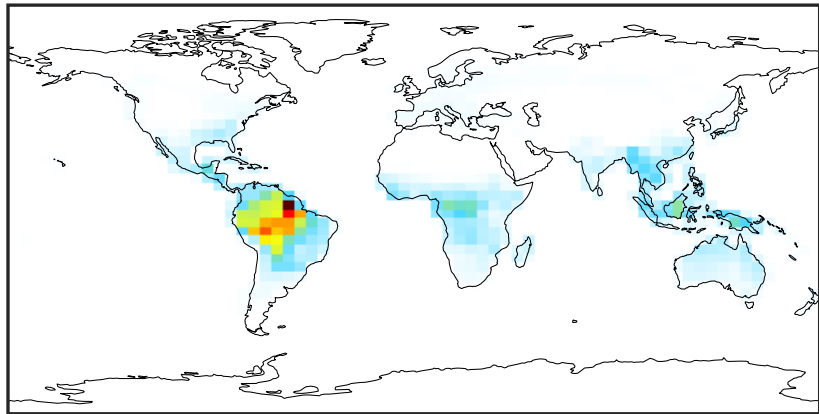unitless

Ratio
Dev/Ref, Fixed Range
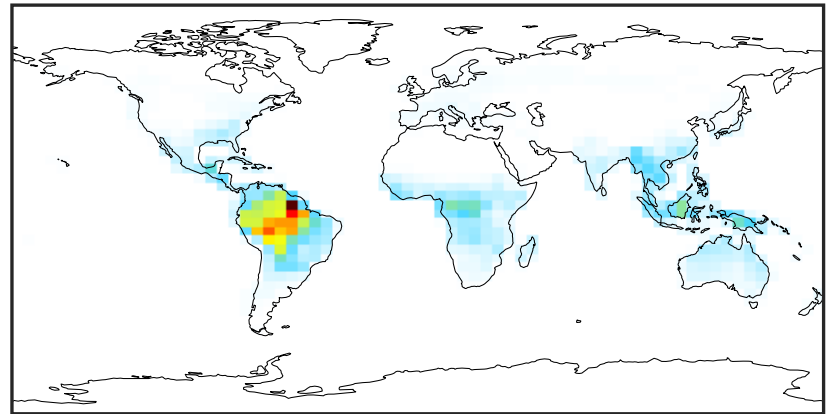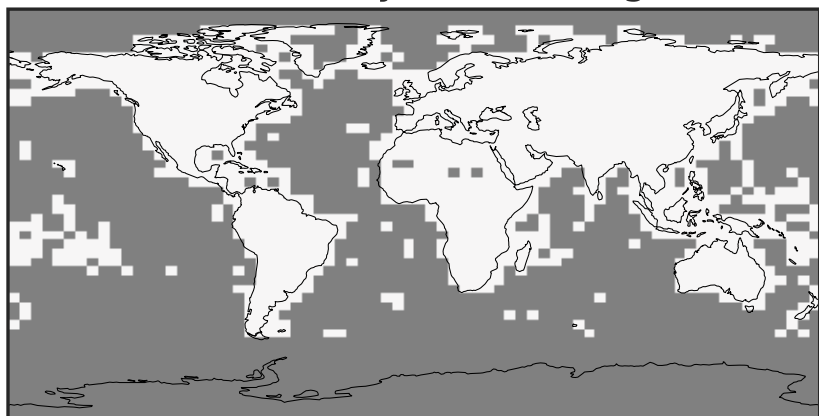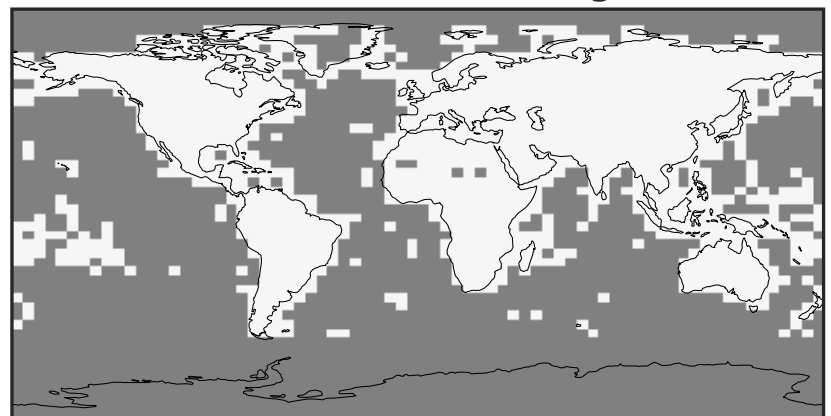

Ref and Dev equal throughout domain
unitless
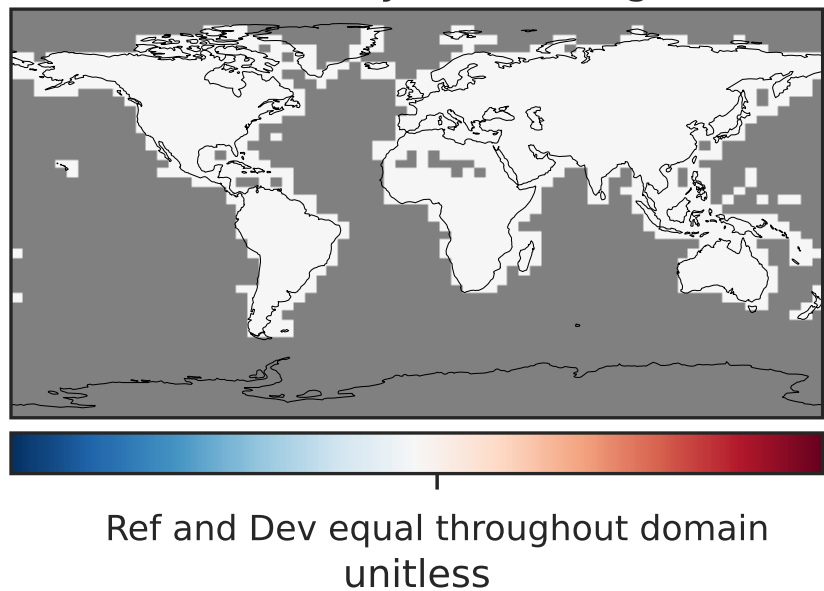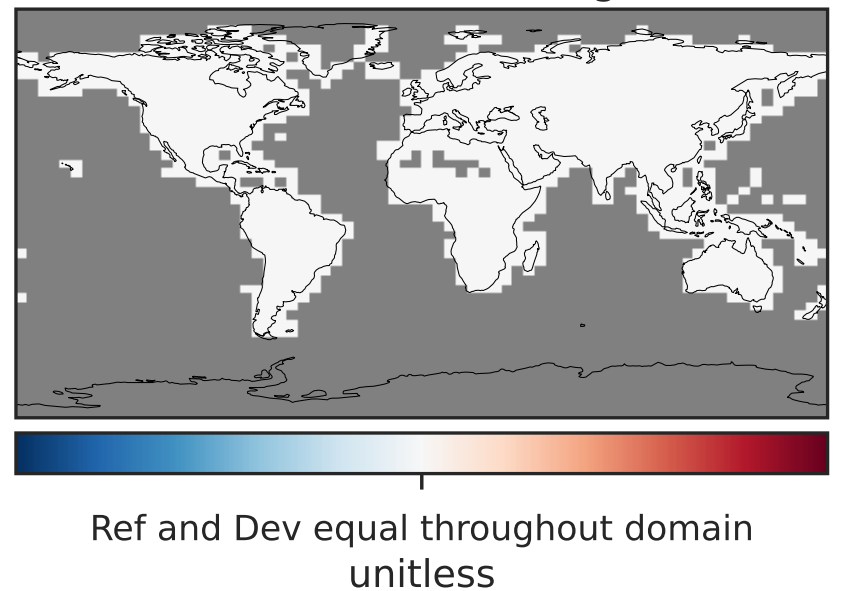
EmisISOP_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
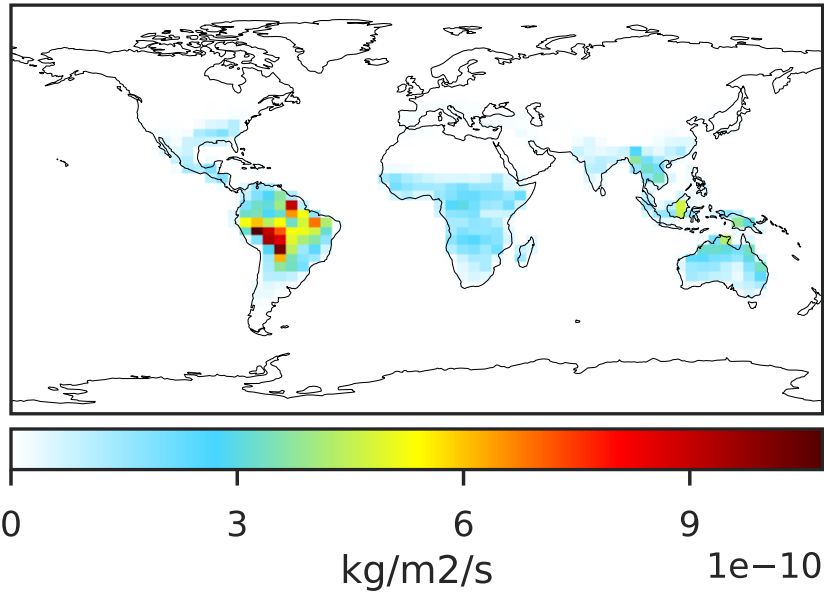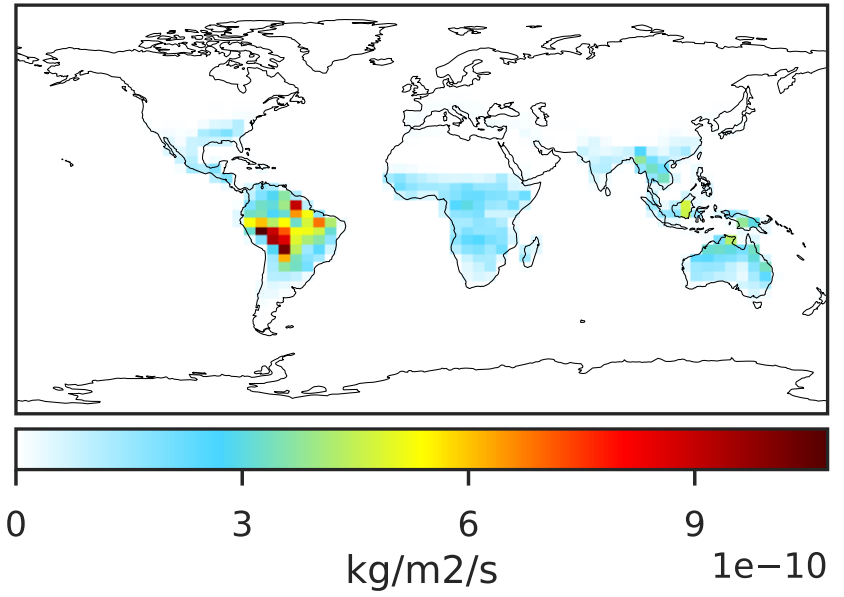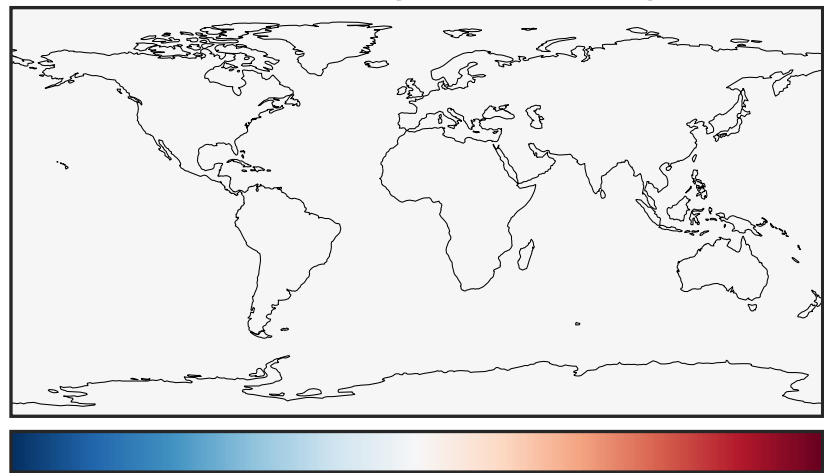
14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

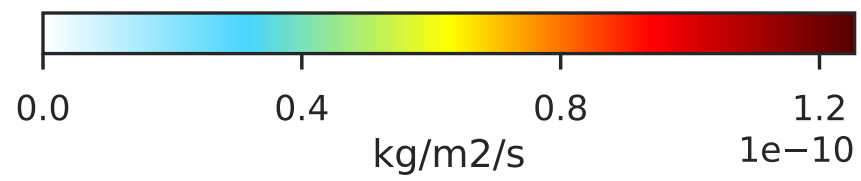Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless
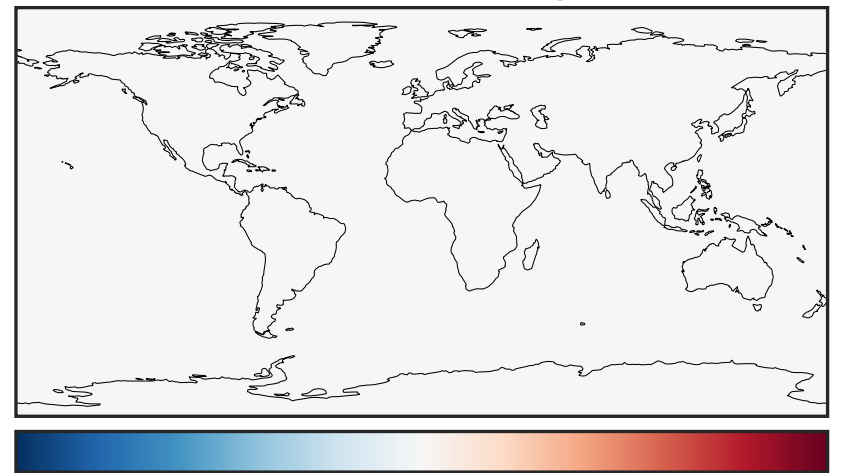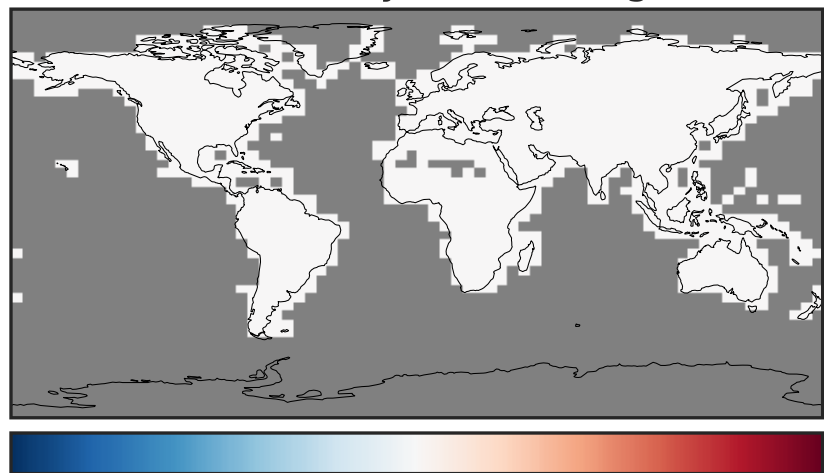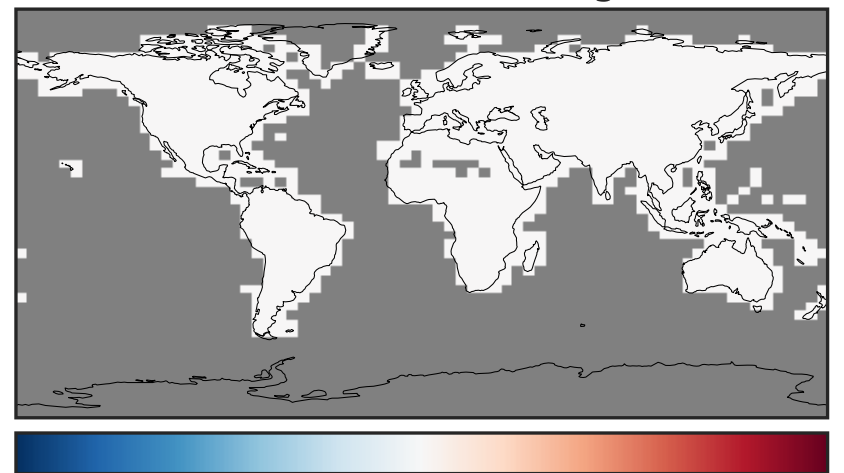
EmisMTPA_BioBurn (Oct2019)
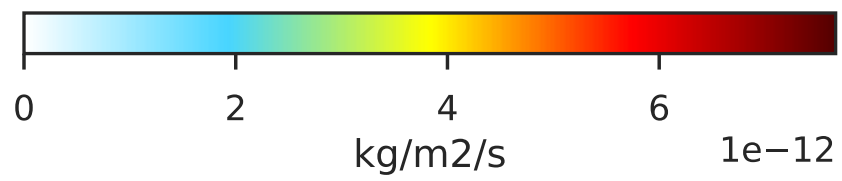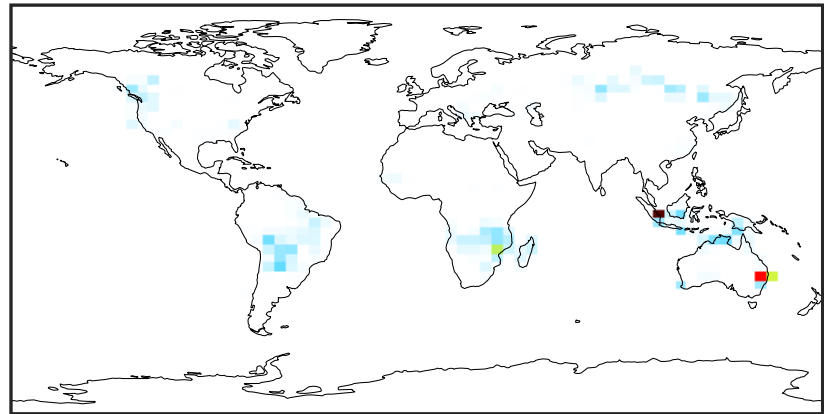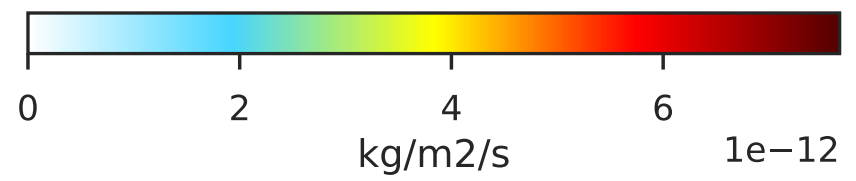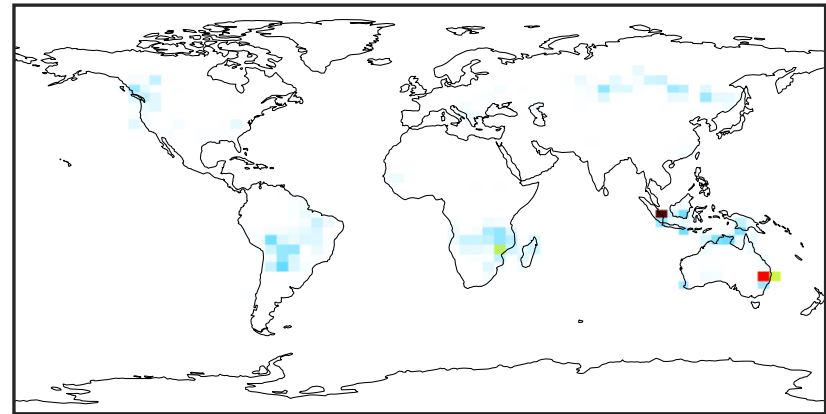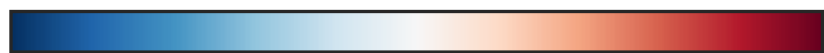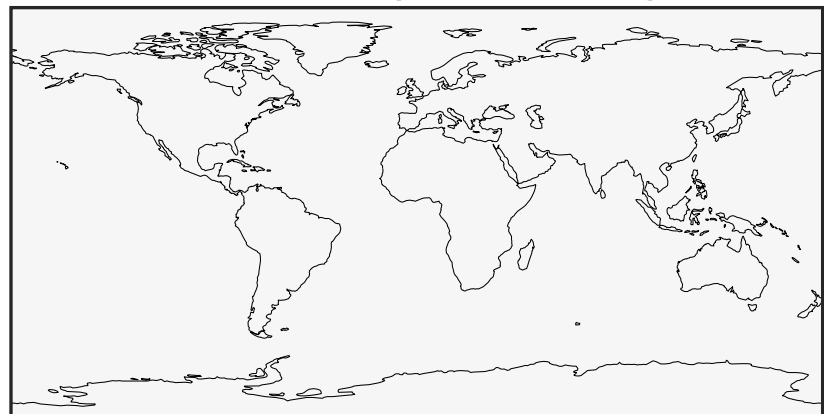
EmisMTPA_Biogenic (Oct2019)

EmisMTPA_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
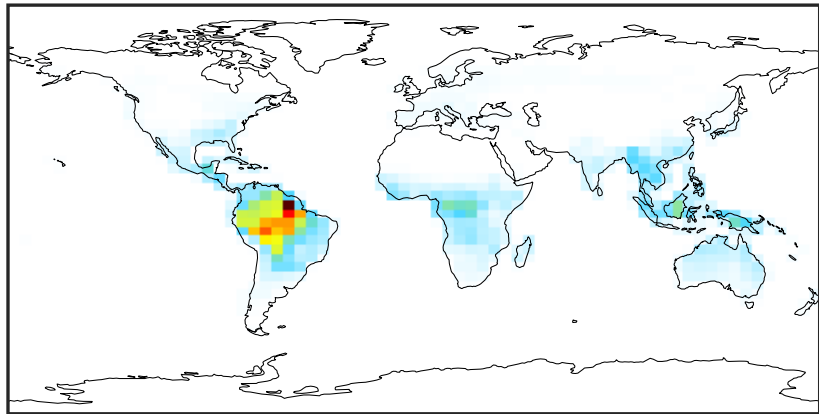### Dev/Ref, Dynamic Range

Ref and Dev equal throughout domain
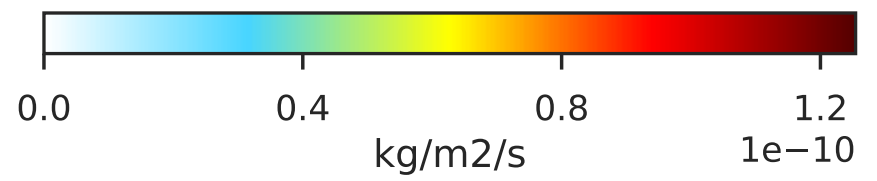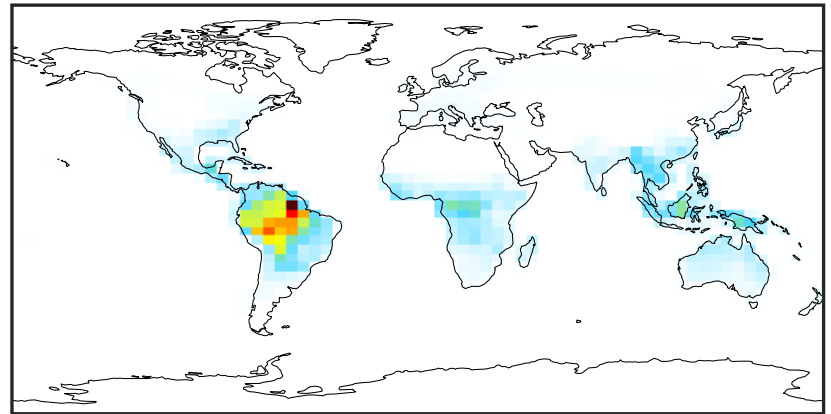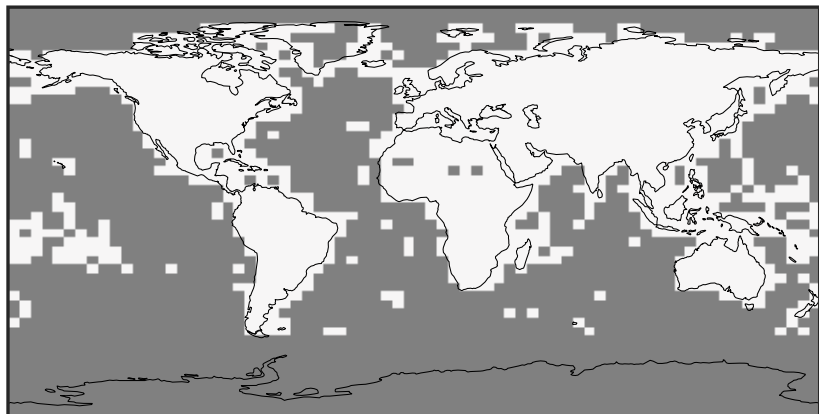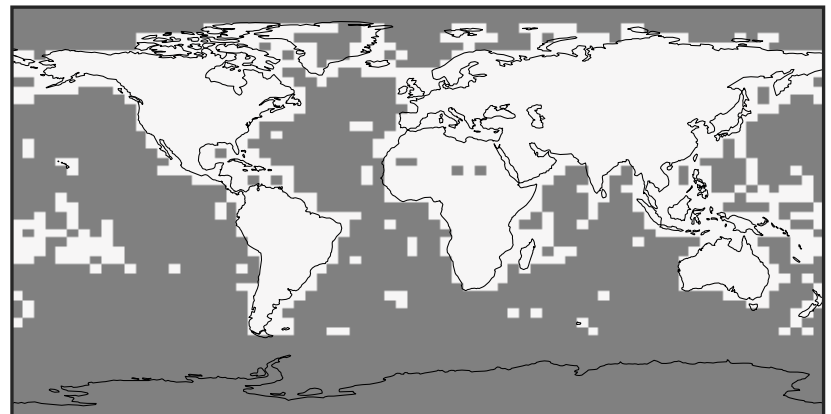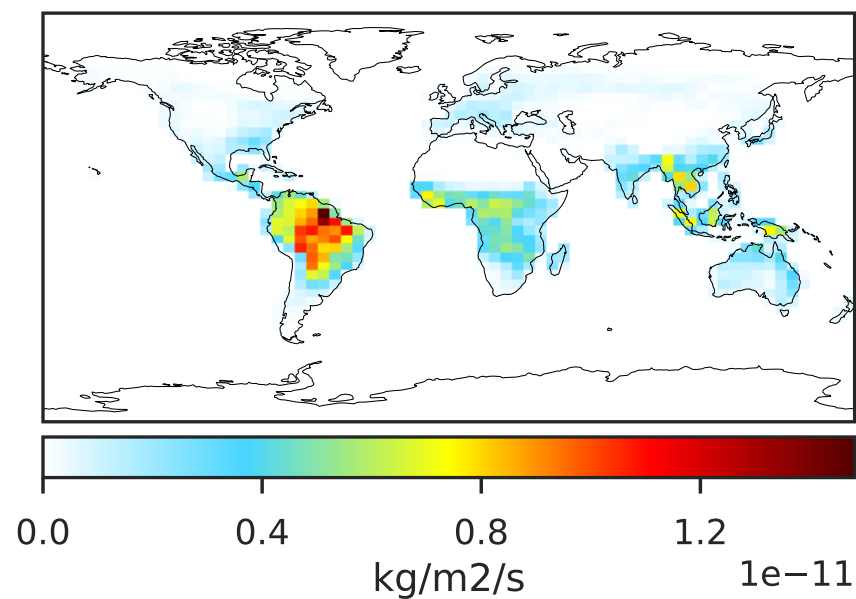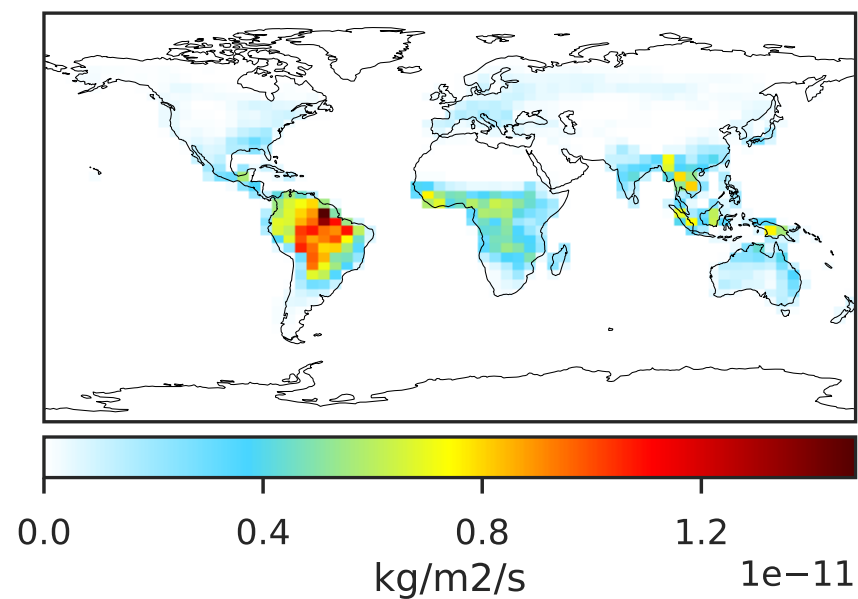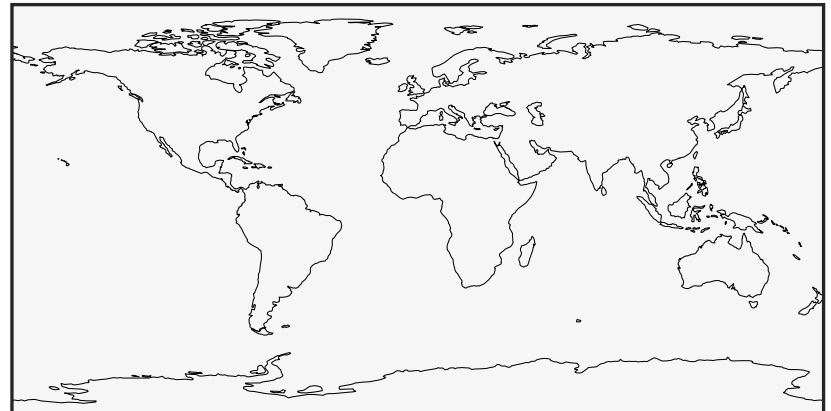unitless

Ratio
Dev/Ref, Fixed Range

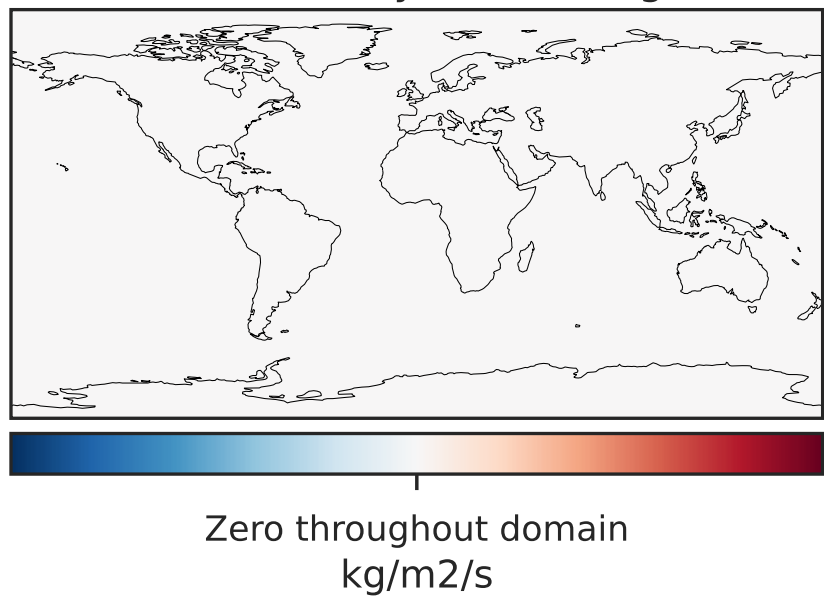Ref and Dev equal throughout domain
unitless

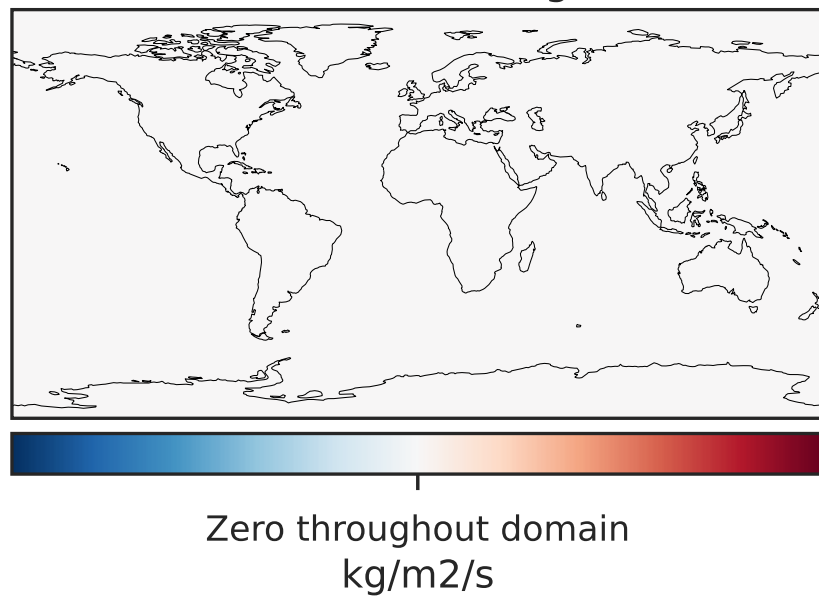# EmisMTPO_Biogenic (Oct2019)

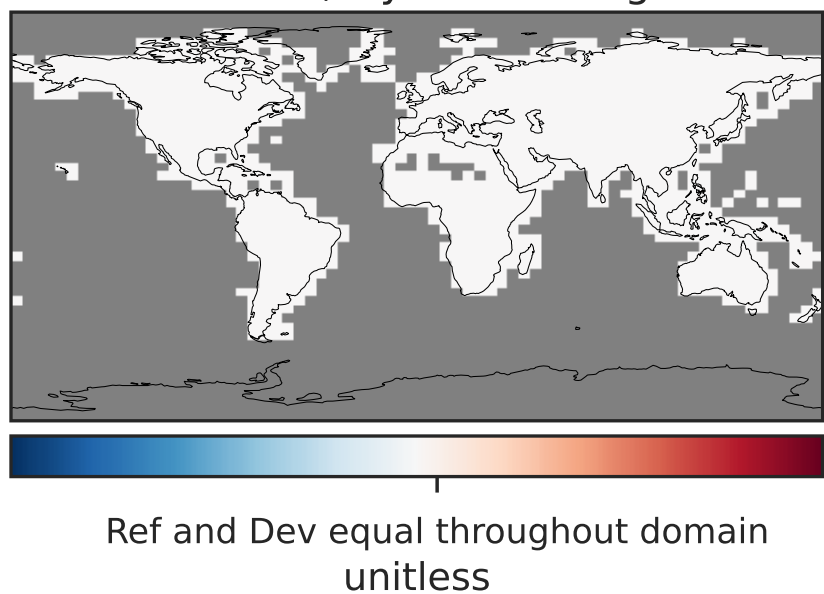## 14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s   1e−10

kg/m2/s   1e−10

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

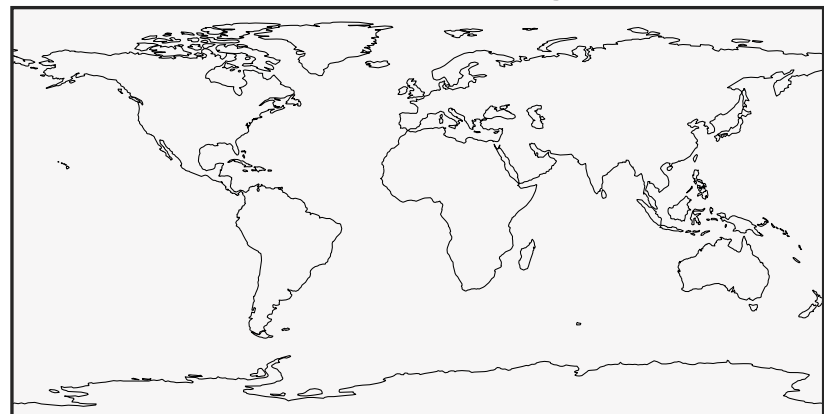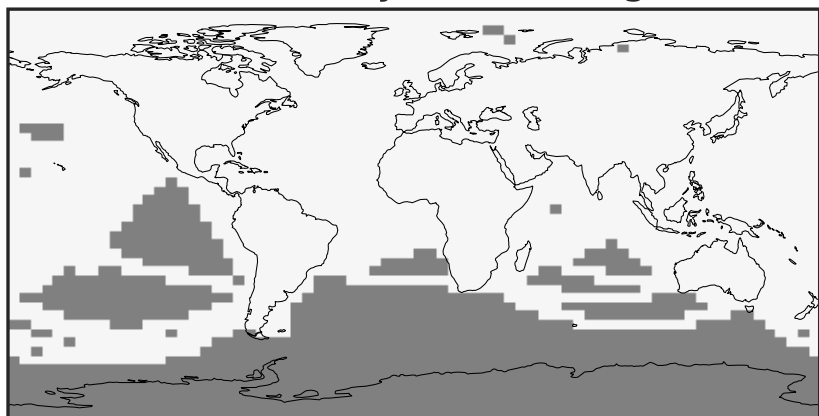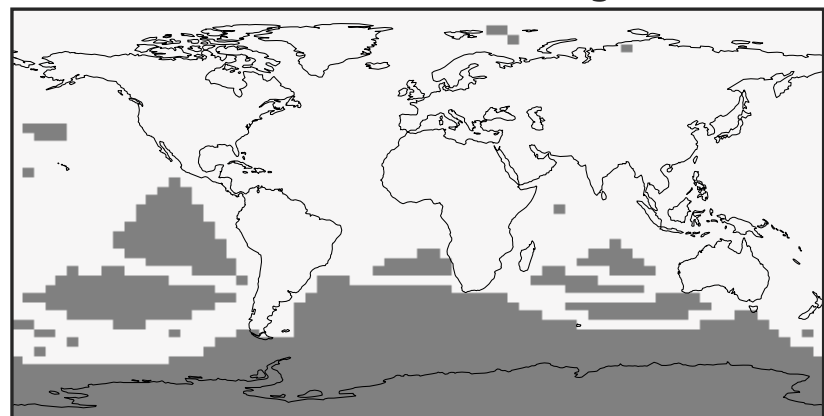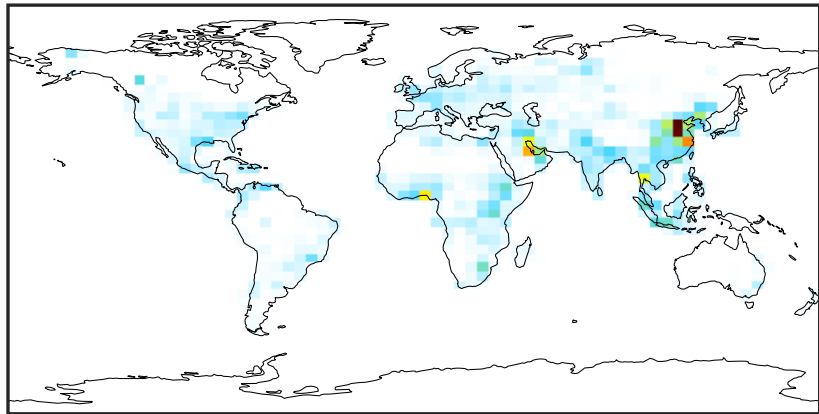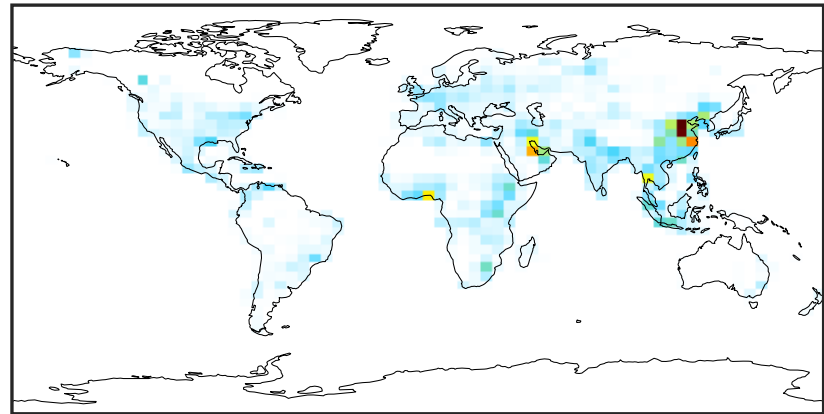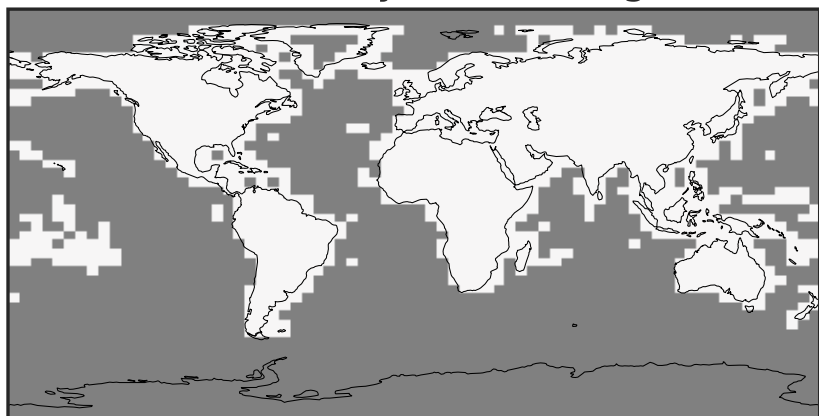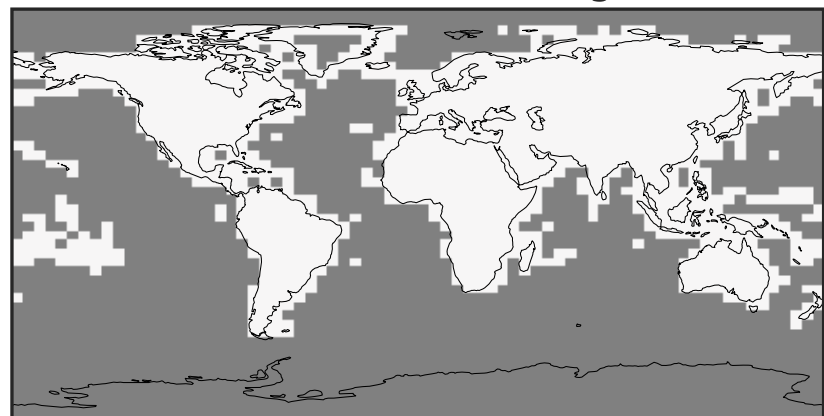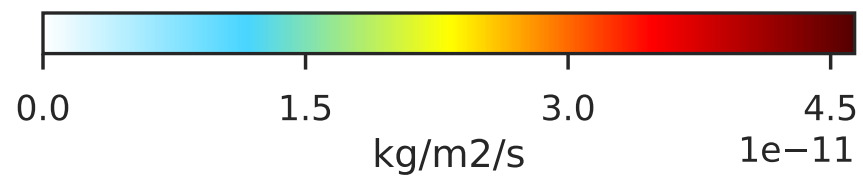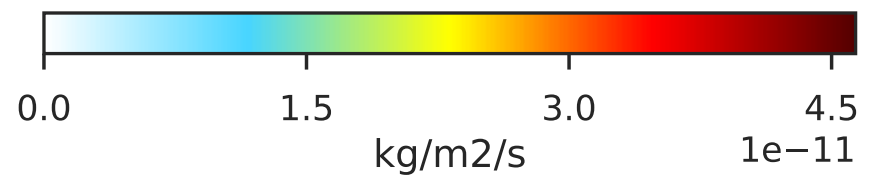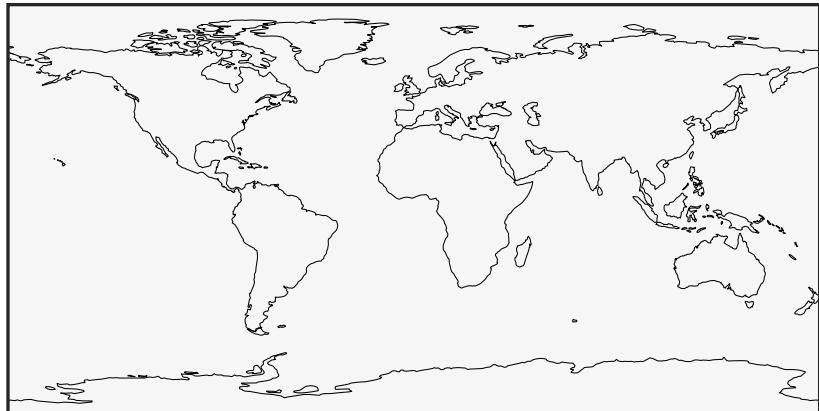## Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisMTPO_Total (Oct2019)

EmisLIMO_Biogenic (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless
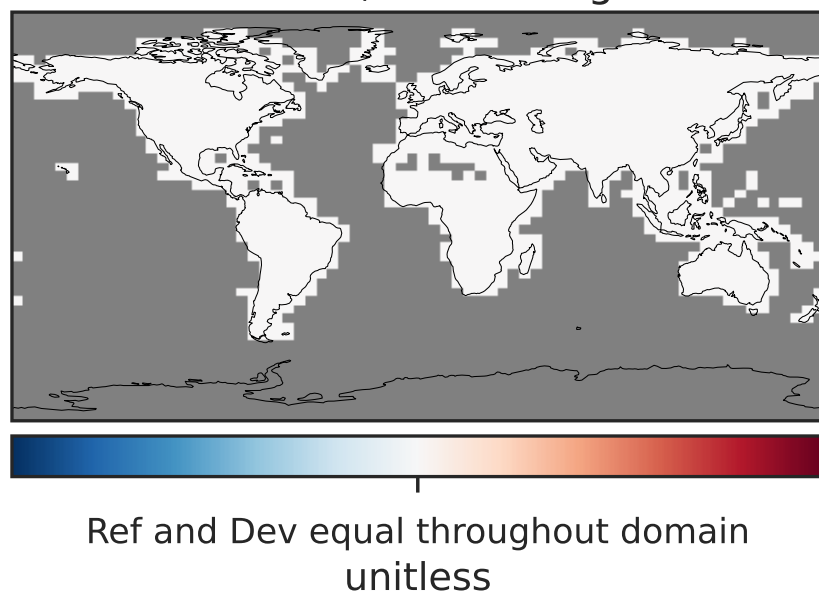
EmisALK4_Aircraft (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
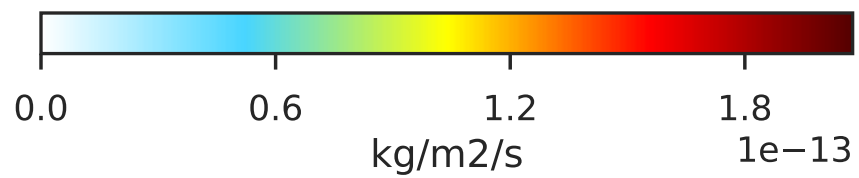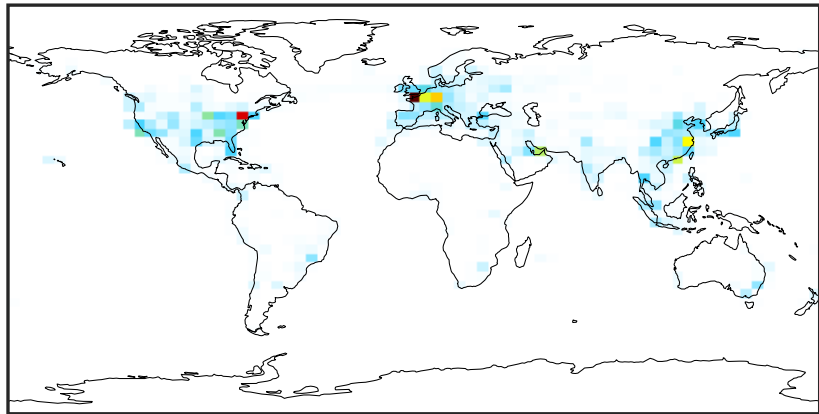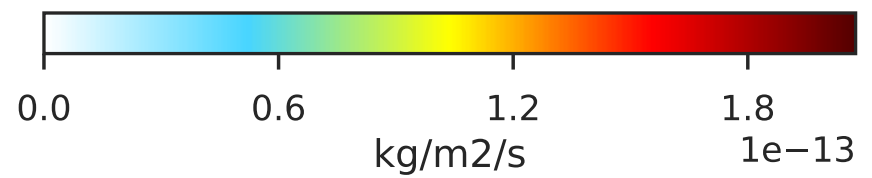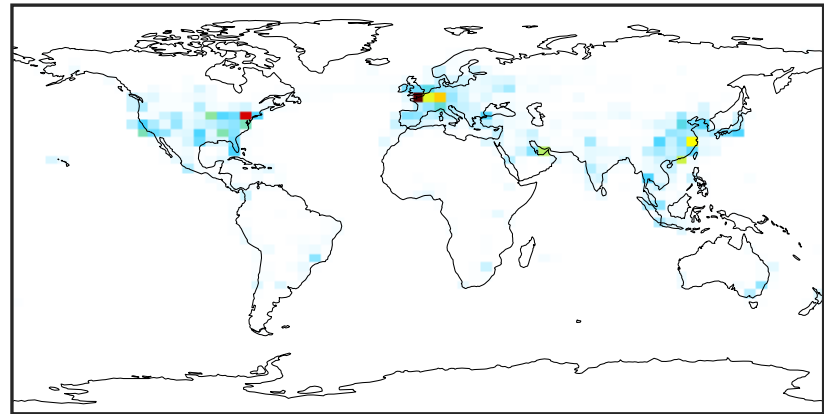
14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s   1e−13

kg/m2/s   1e−13

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
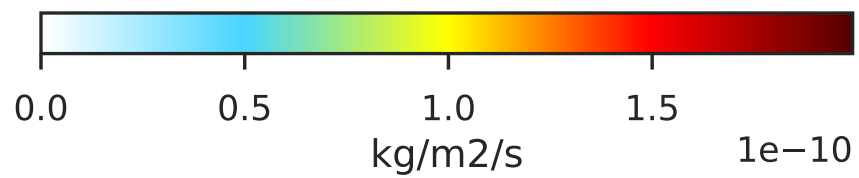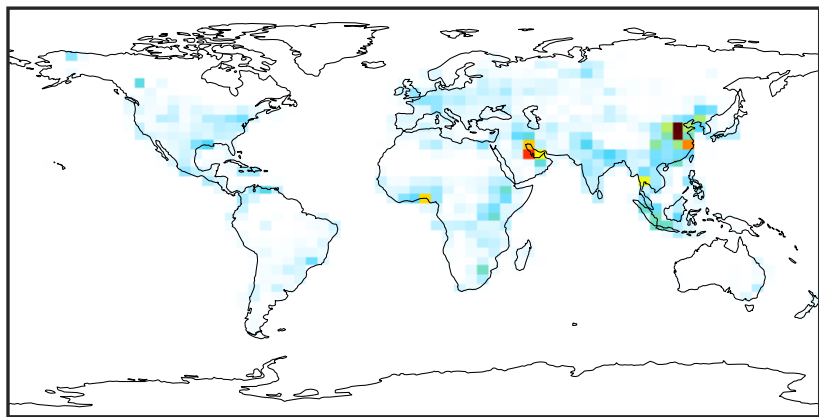kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisALK4_Anthro (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ref and Dev equal throughout domain
unitless

Ratio
Dev/Ref, Fixed Range
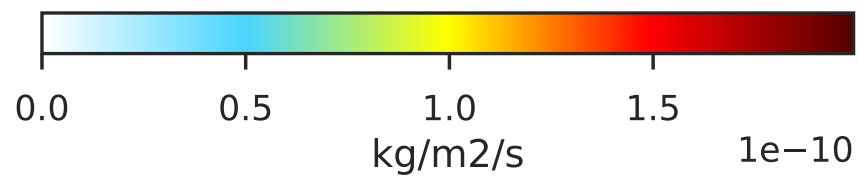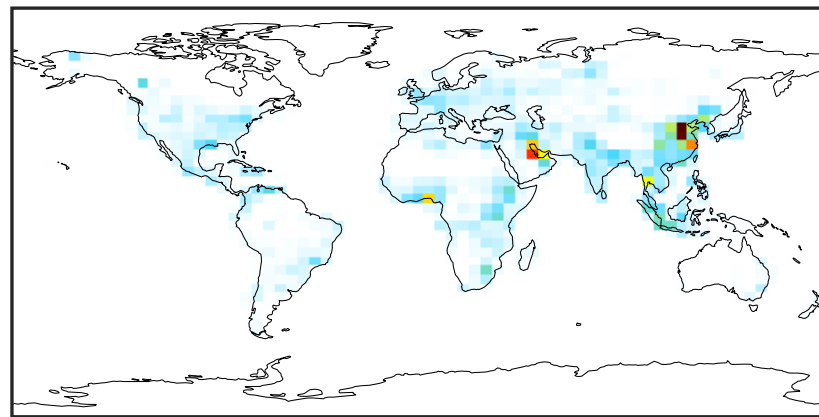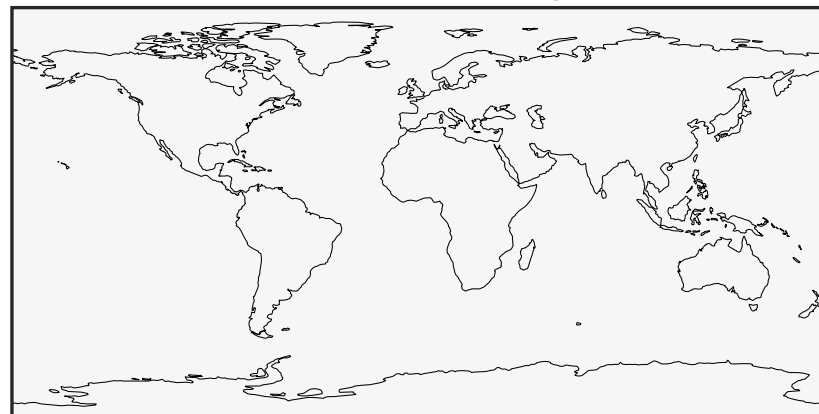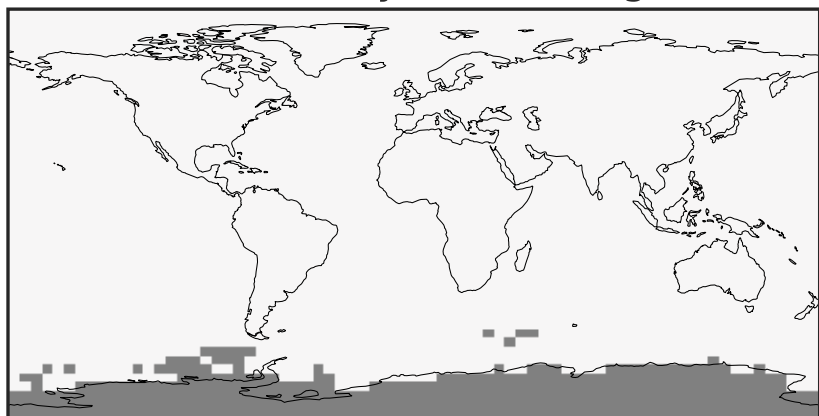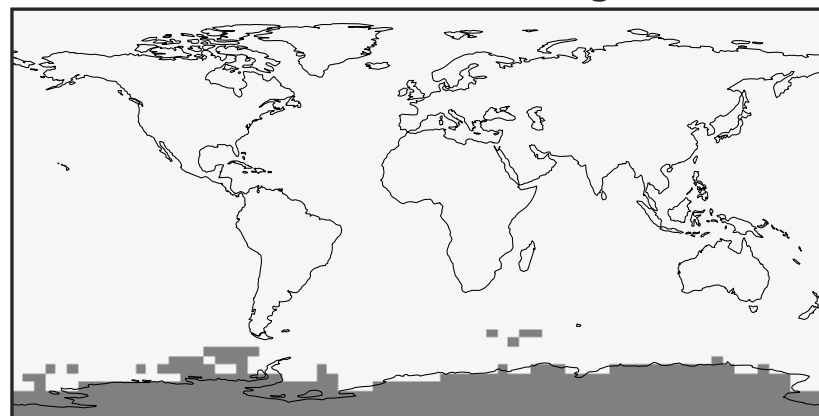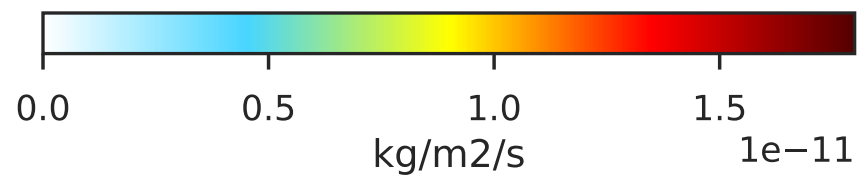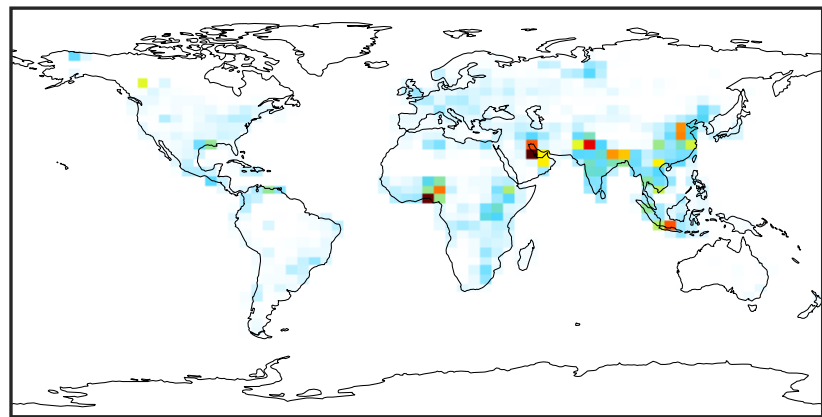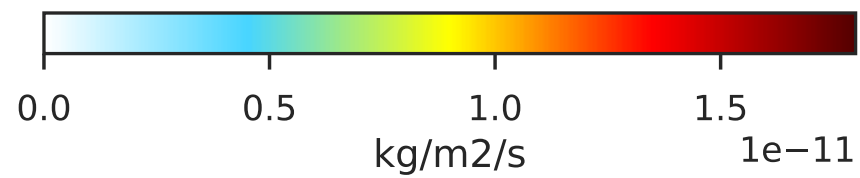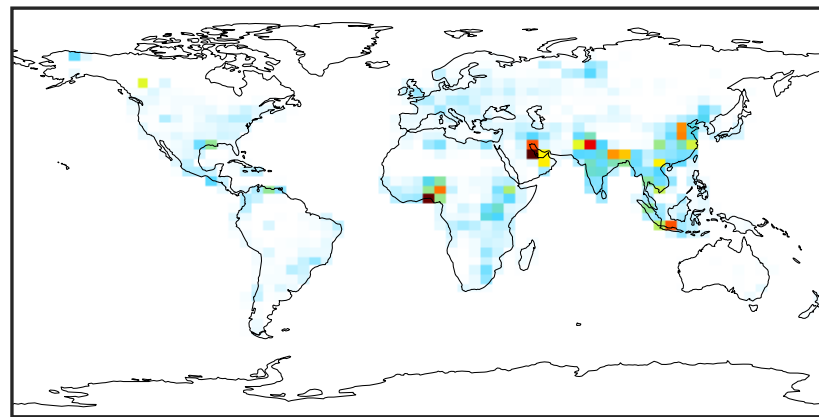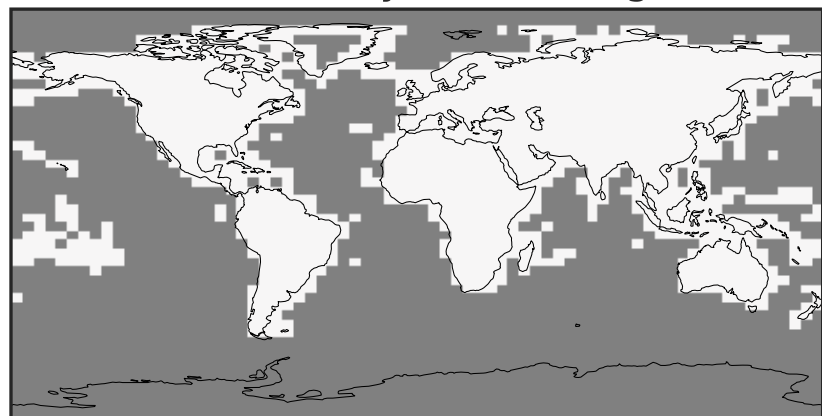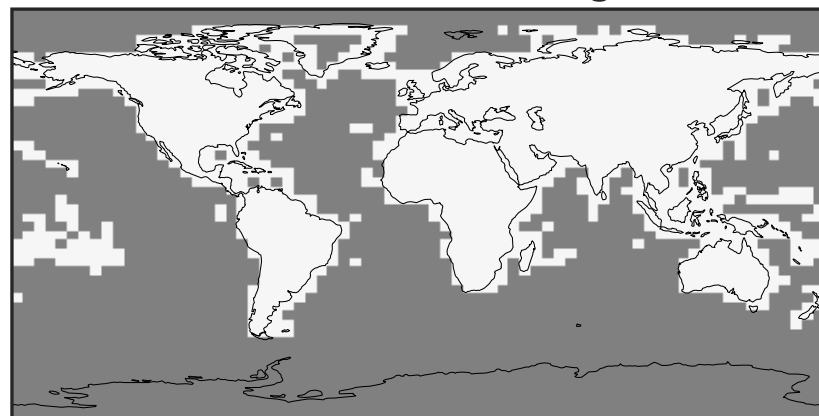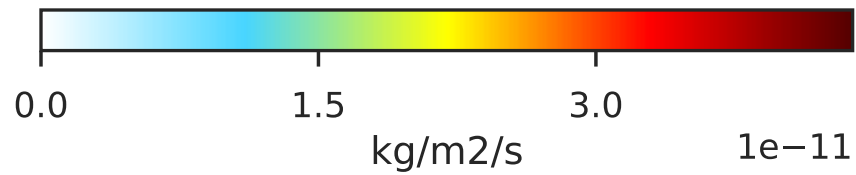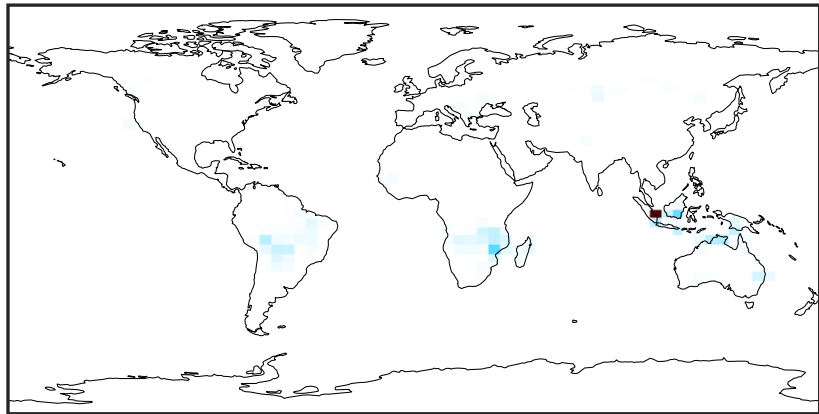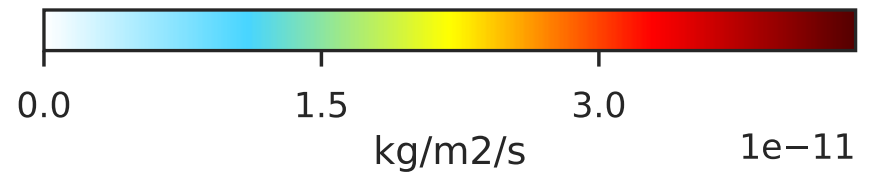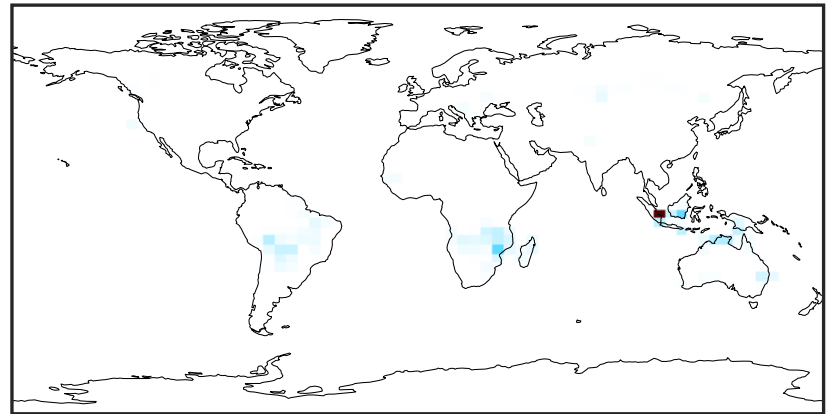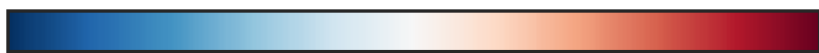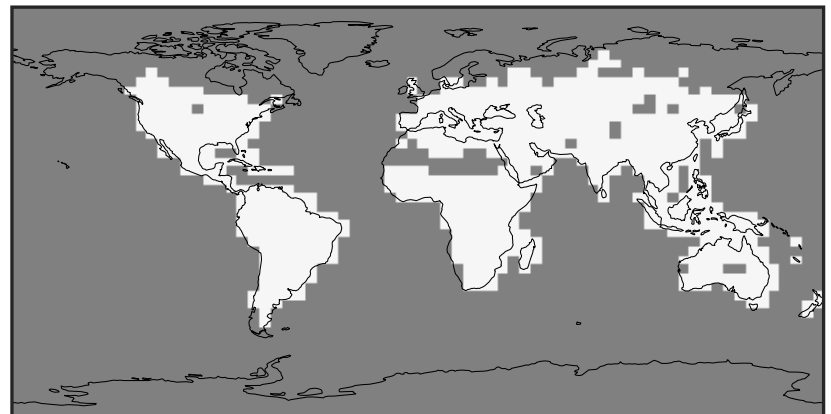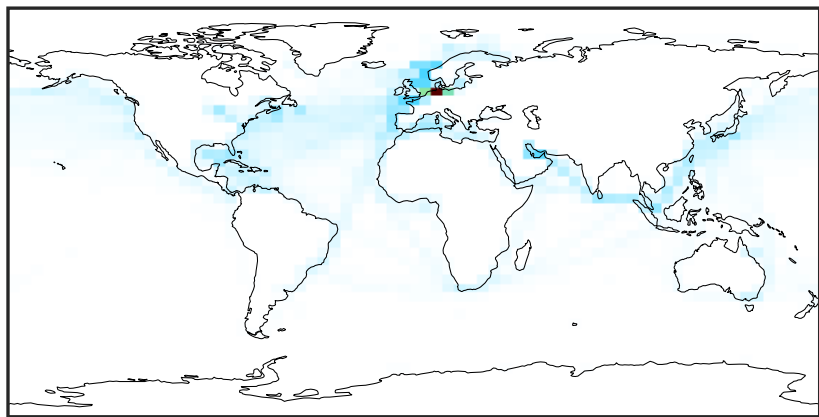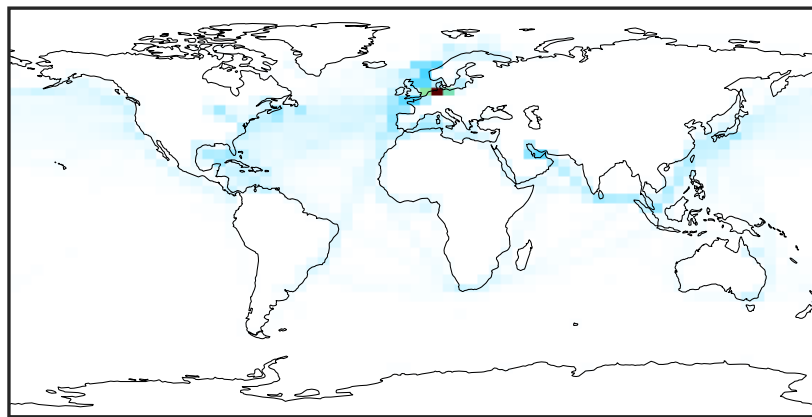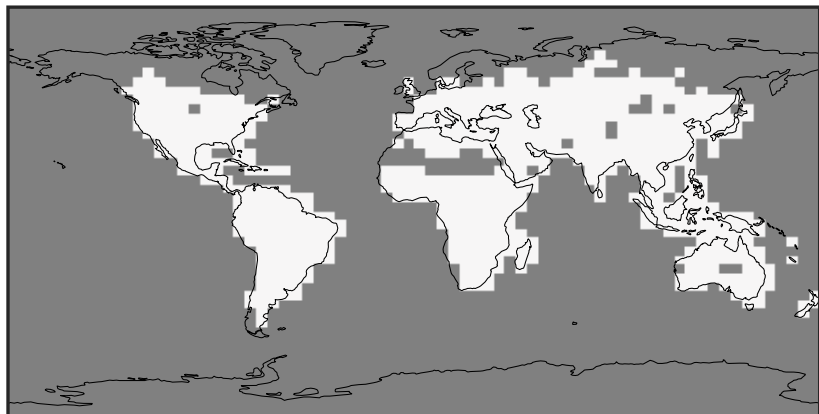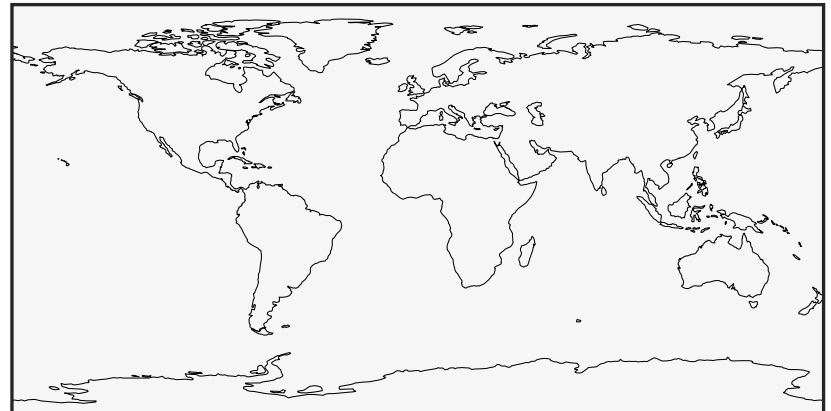

Ref and Dev equal throughout domain
unitless

EmisALK4_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s   1e−11

kg/m2/s   1e−11

Difference
Dev − Ref, Dynamic Range

Difference
Dev − Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s
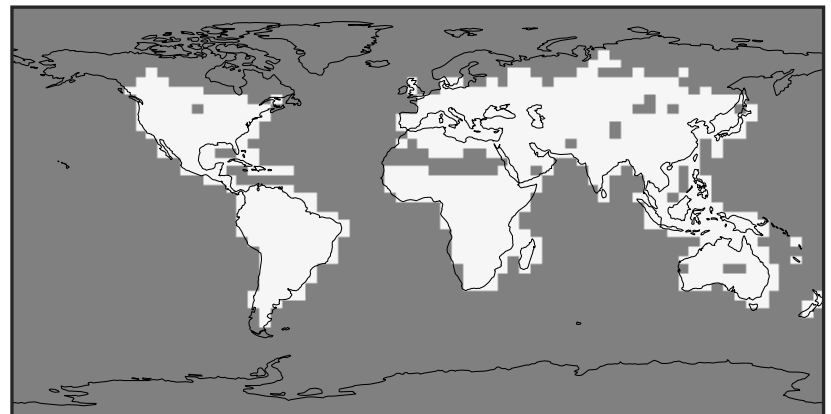
Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisALK4_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
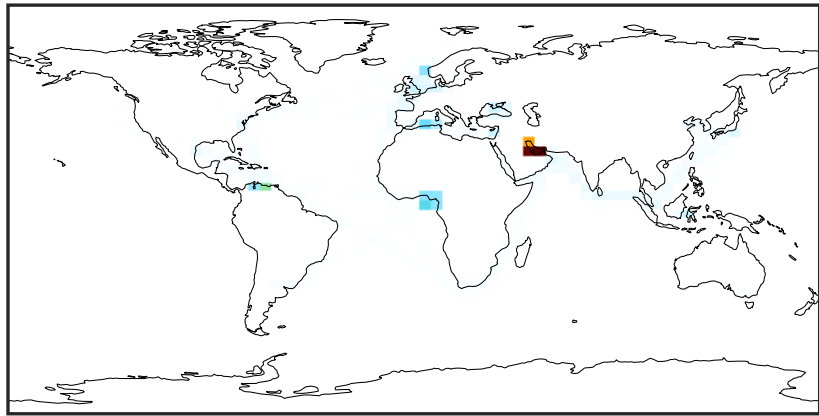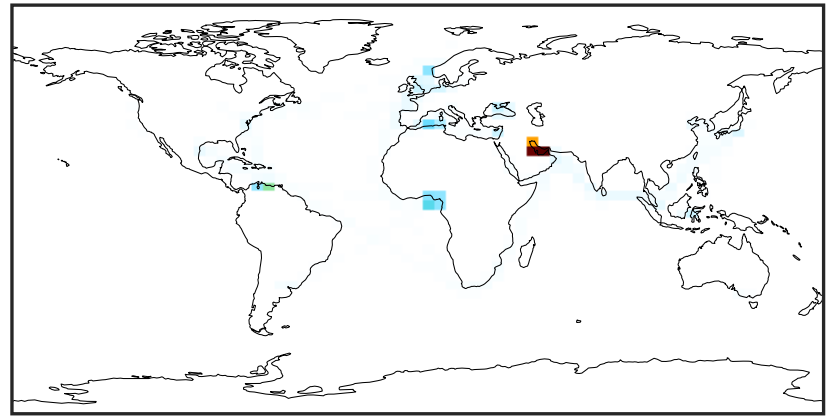
kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s
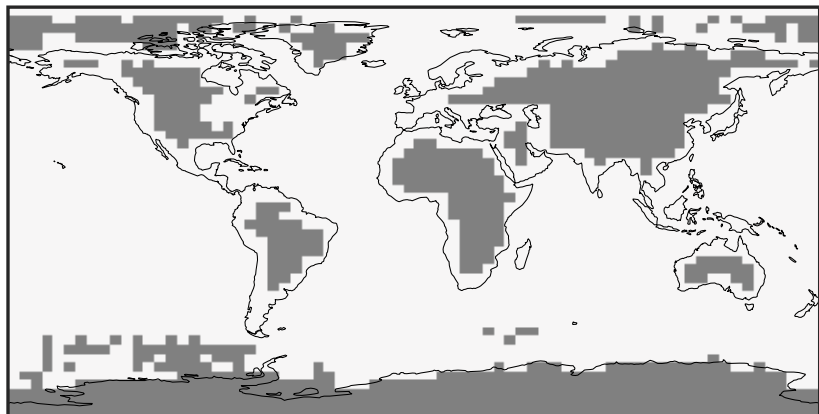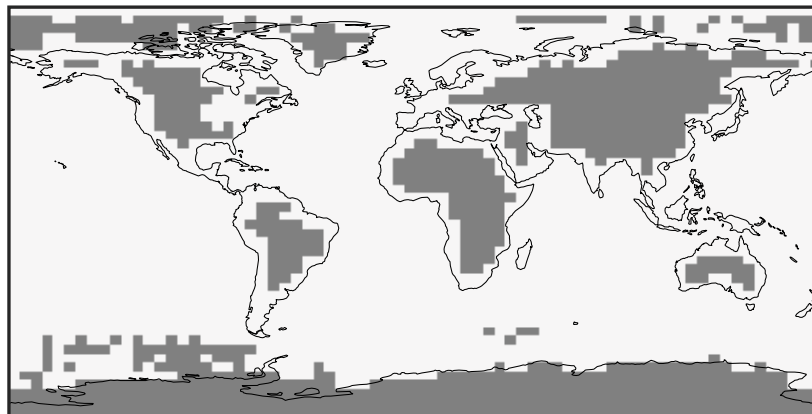
Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]
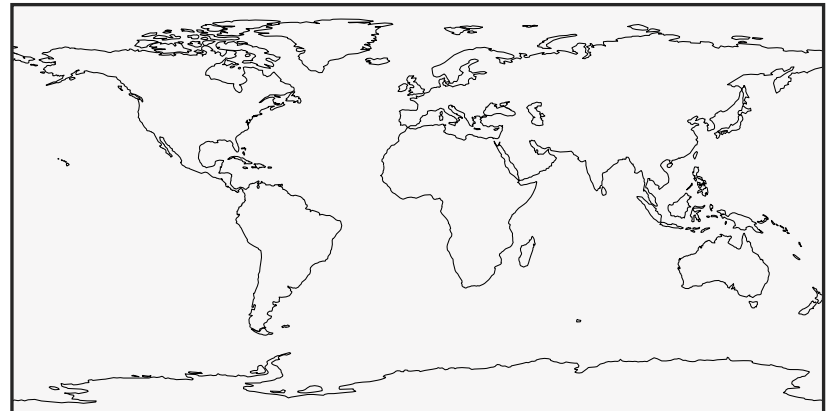
Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
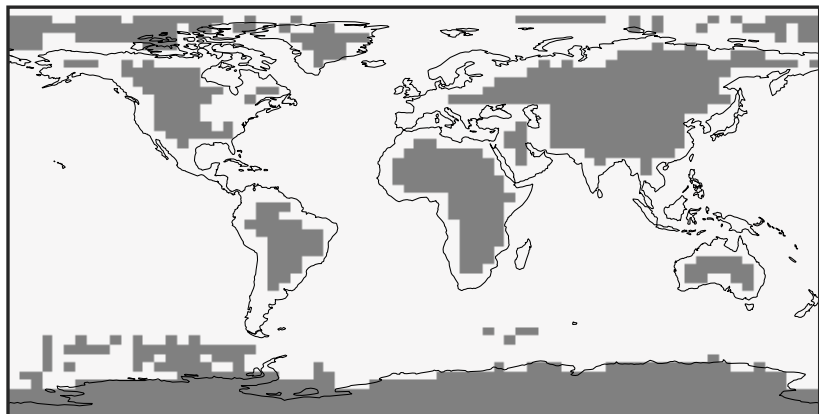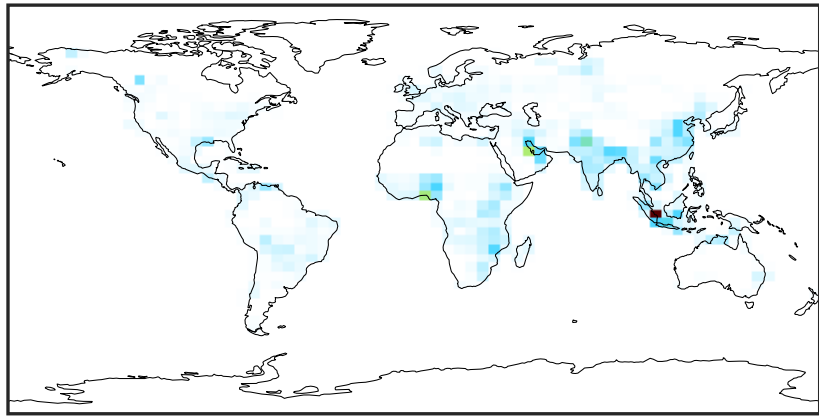

Ref and Dev equal throughout domain
unitless

Ratio
Dev/Ref, Fixed Range
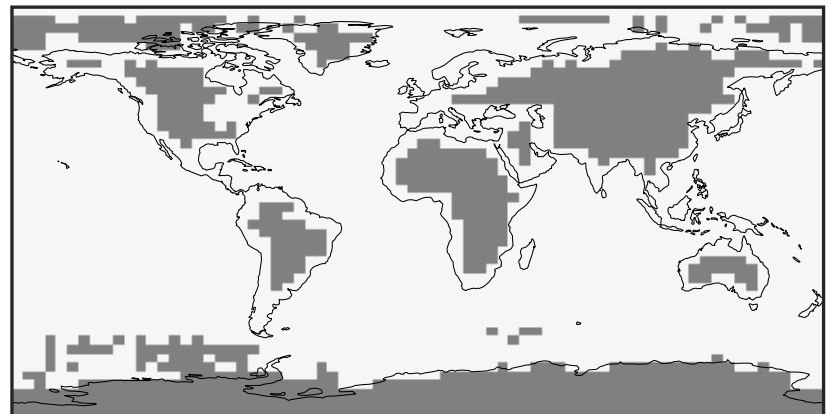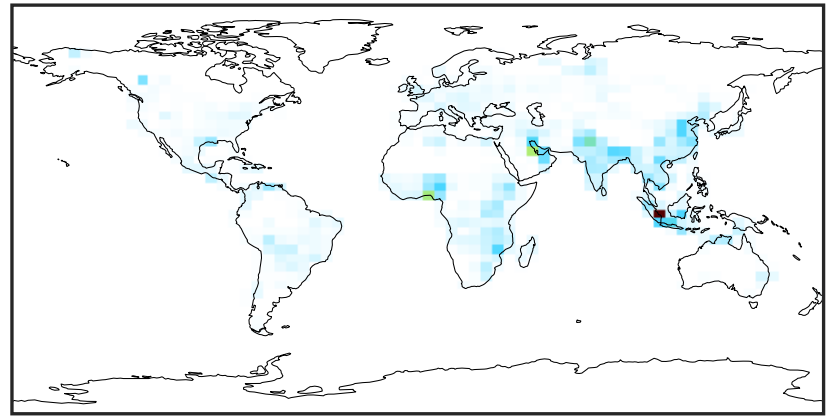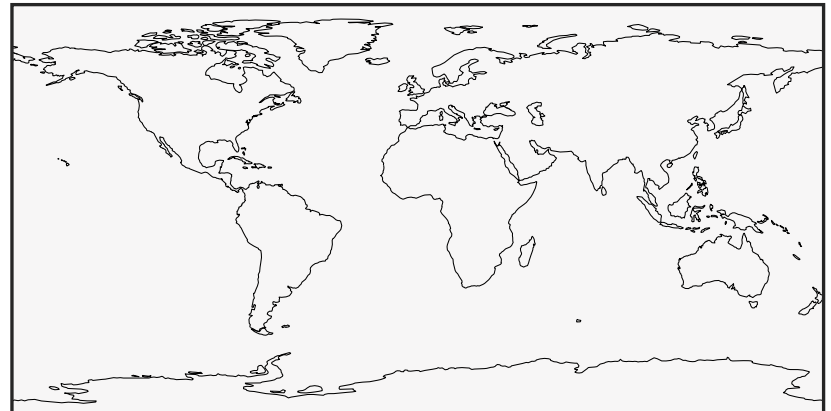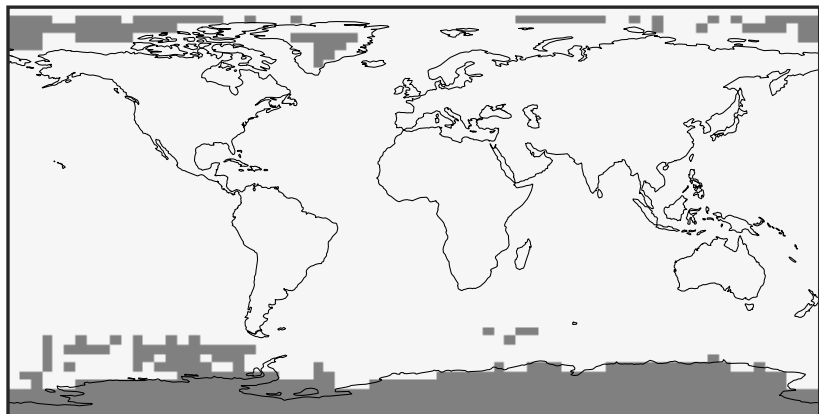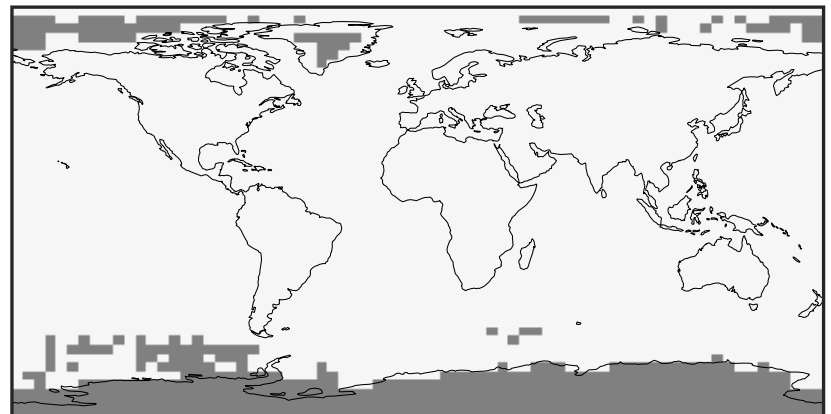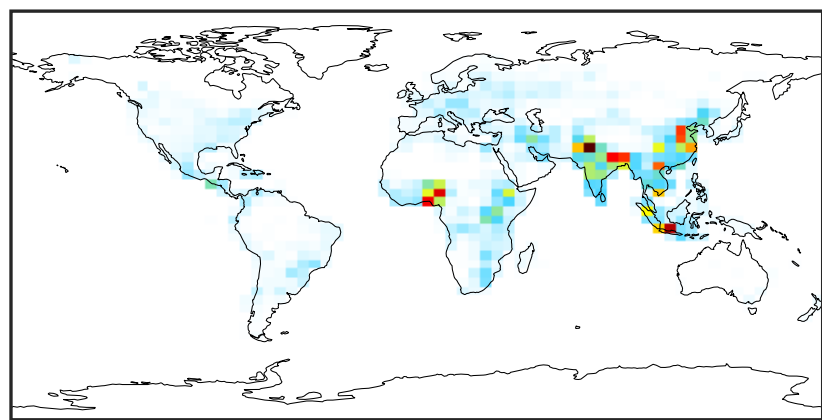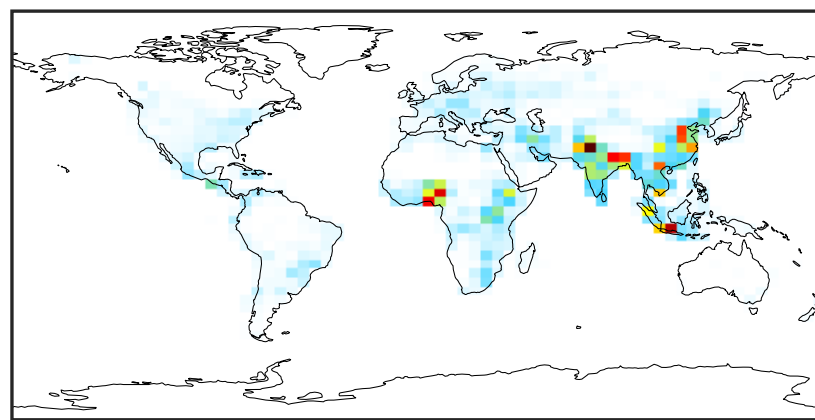

Ref and Dev equal throughout domain
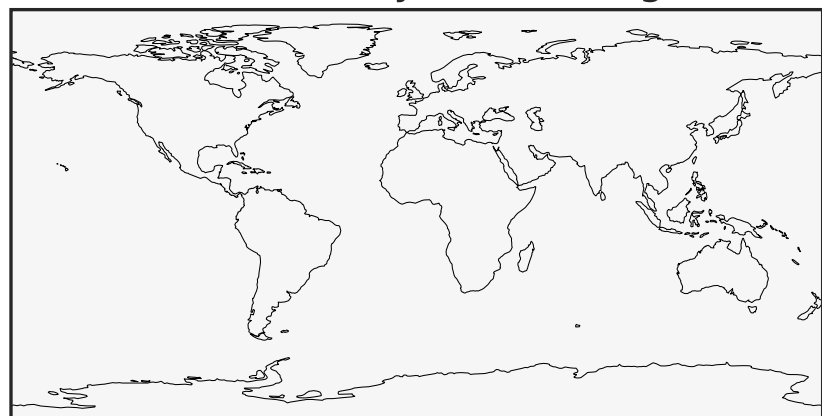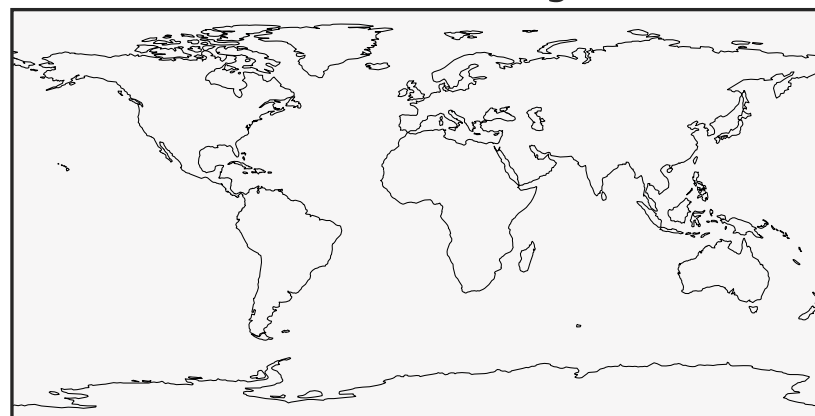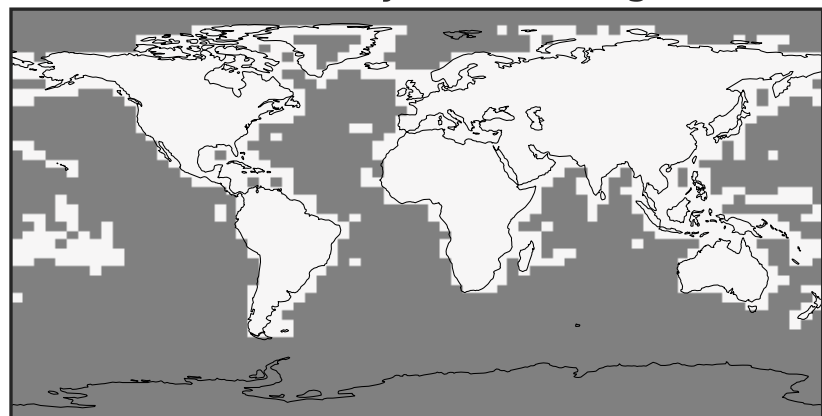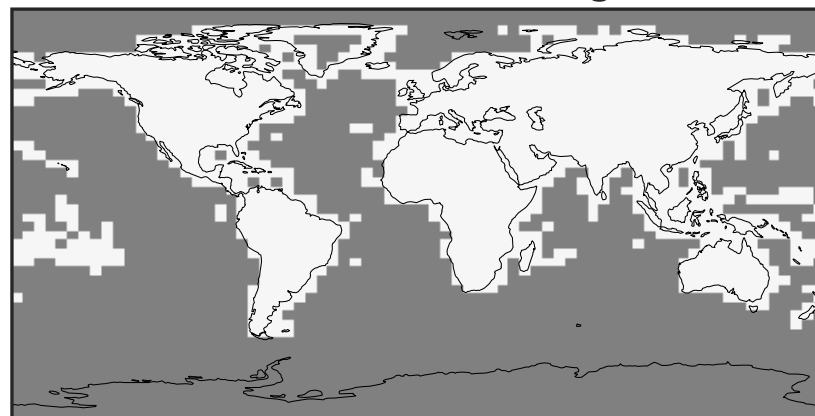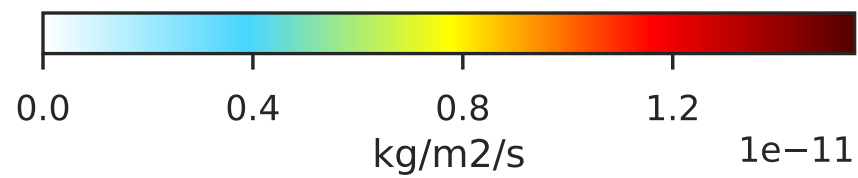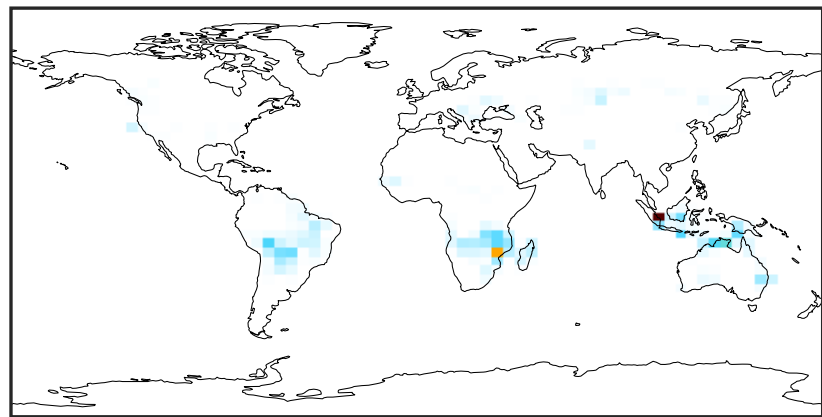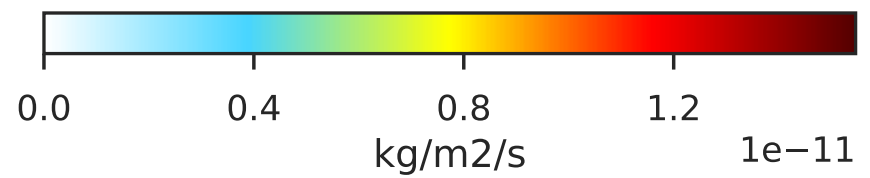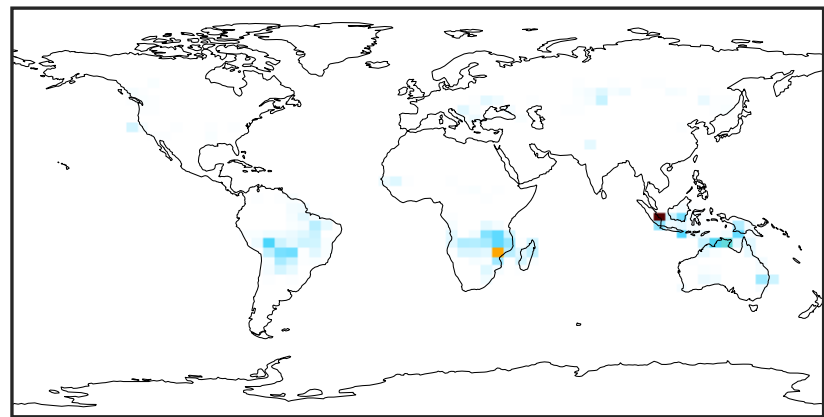unitless

EmisALK4_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

kg/m2/s

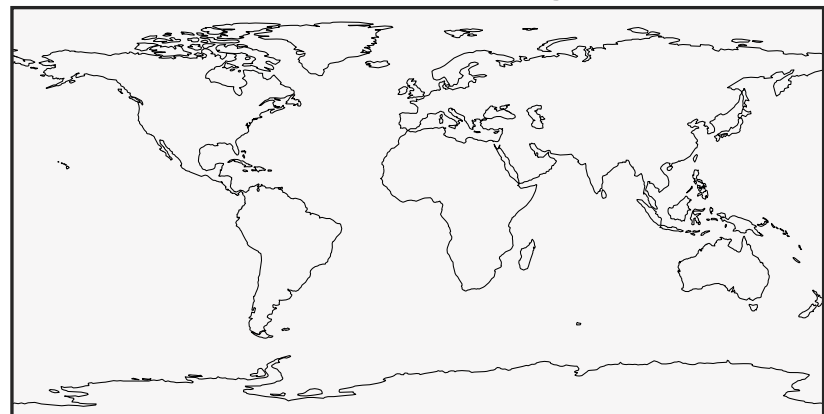## 14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s
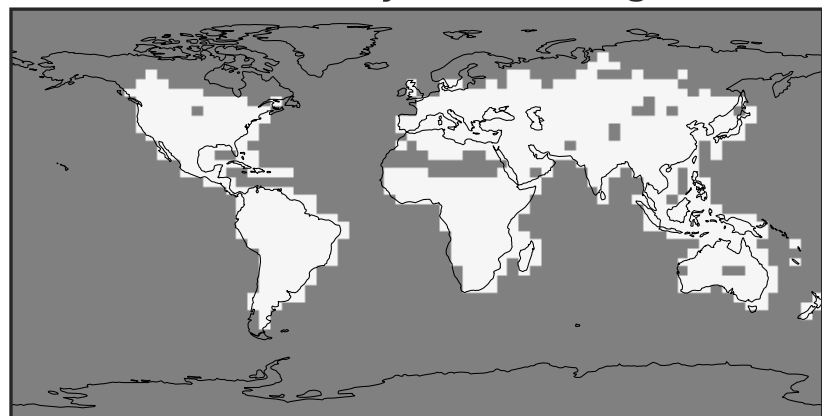
Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
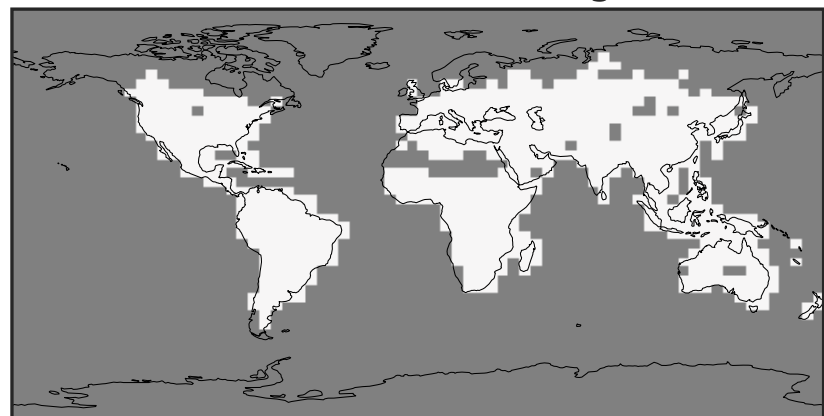### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
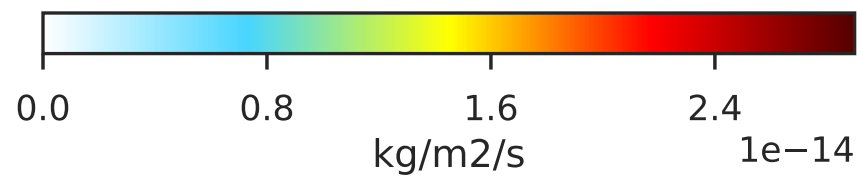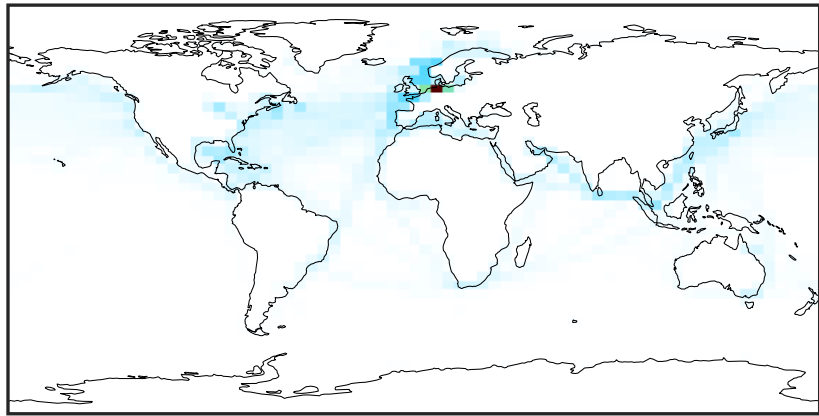### Dev/Ref, Dynamic Range

Ref and Dev equal throughout domain
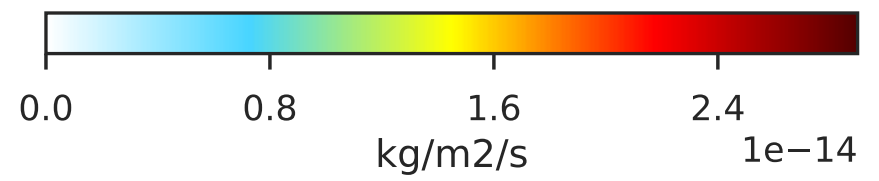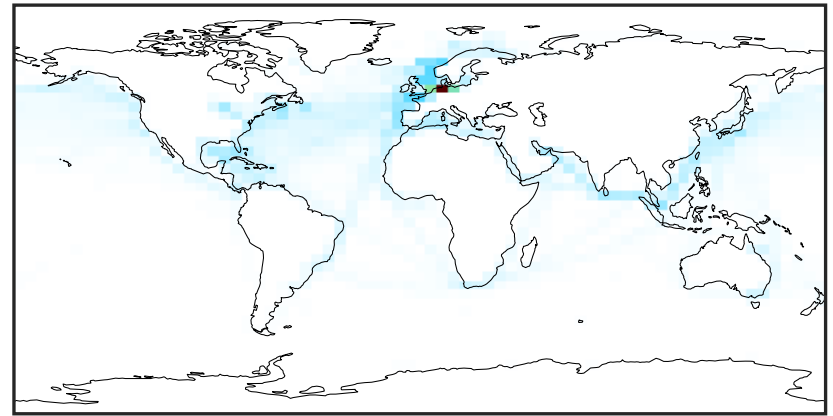unitless

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

EmisBENZ_Anthro (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

kg/m2/s

14.3.0-rc.0 (Dev)
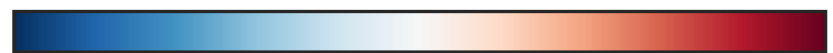### 4.0x5.0

kg/m2/s

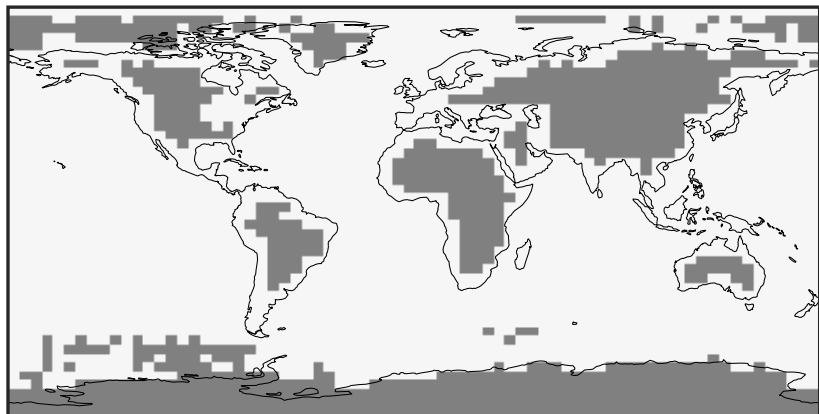## Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
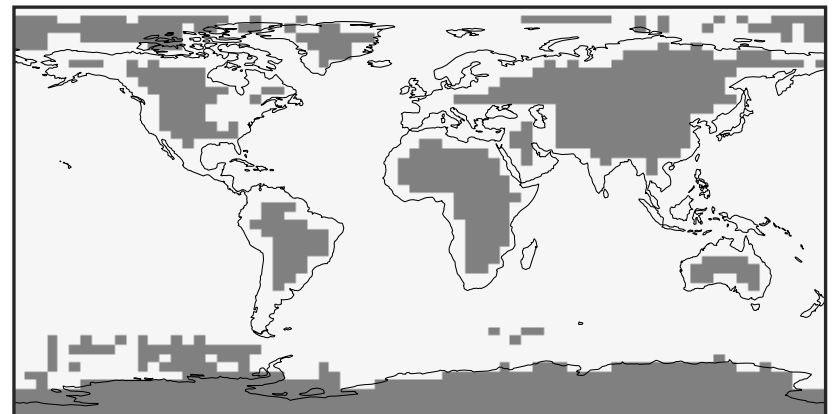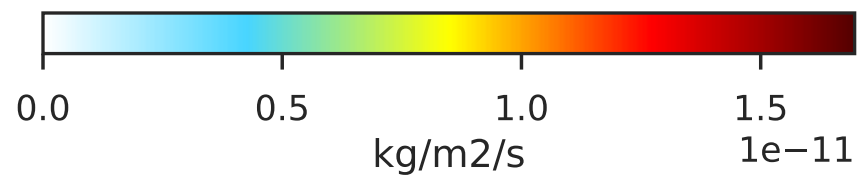### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
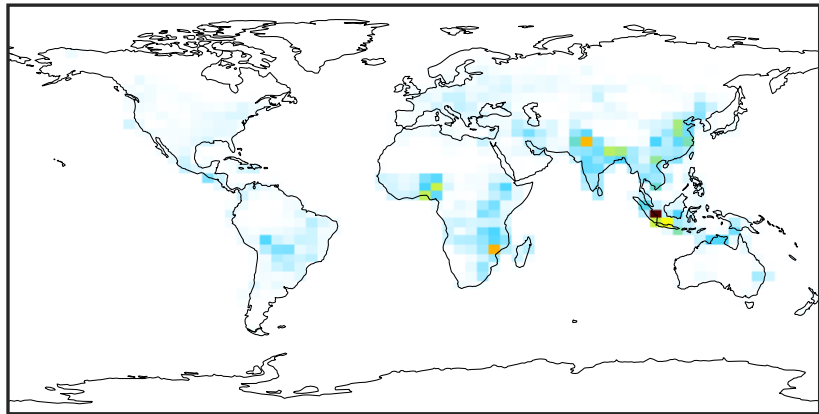

Ref and Dev equal throughout domain
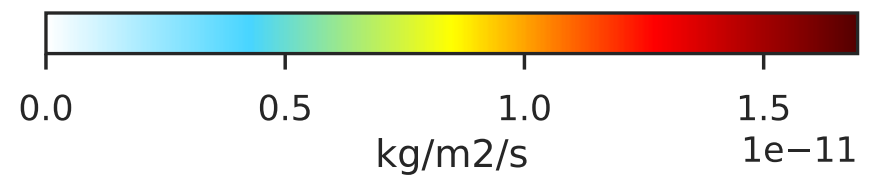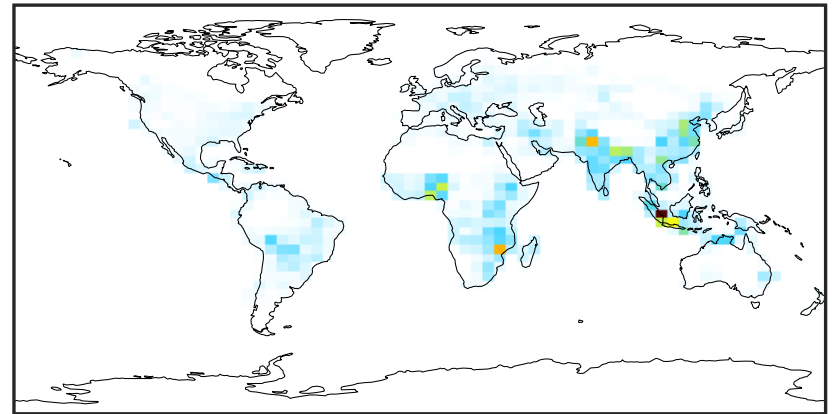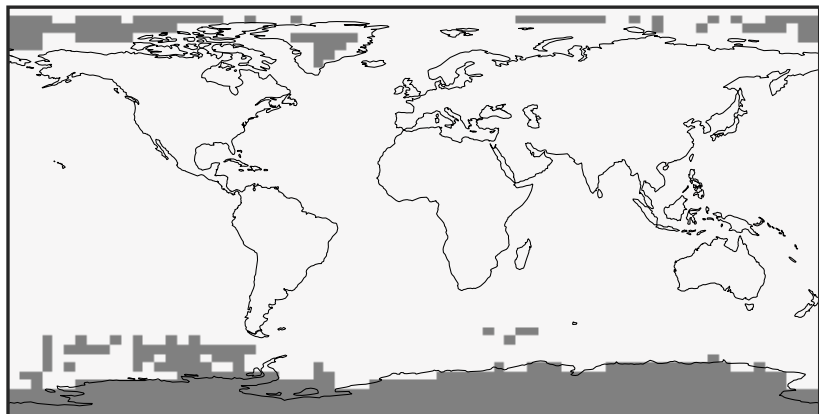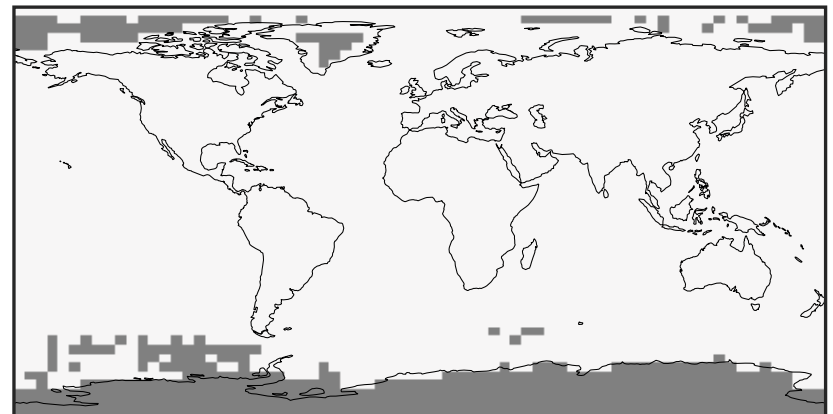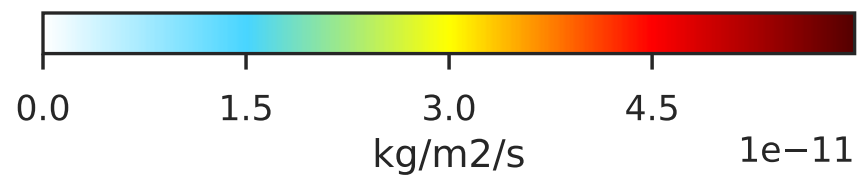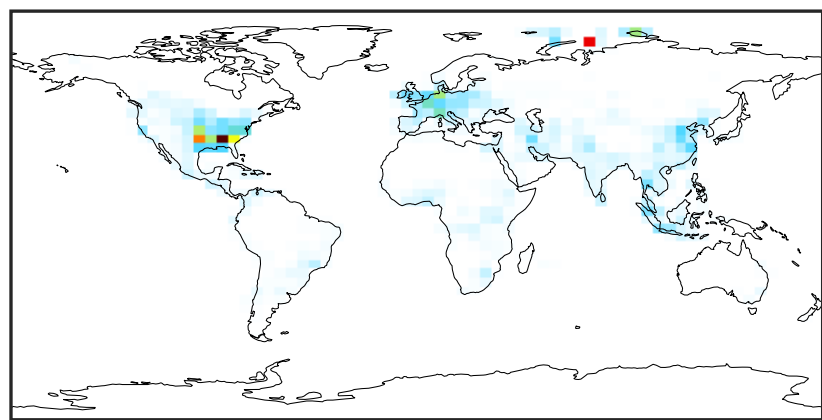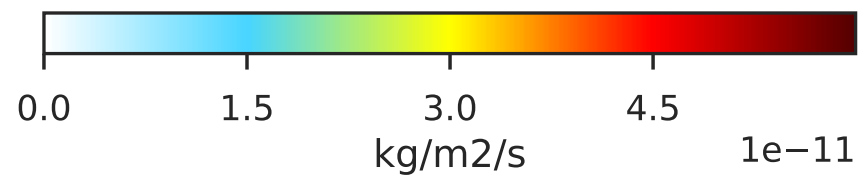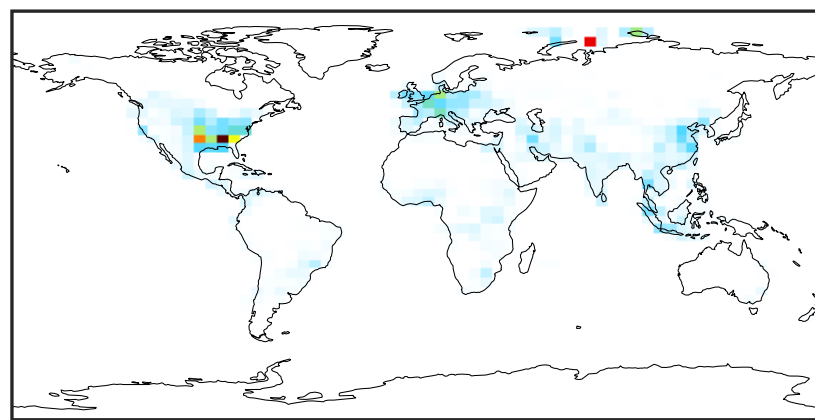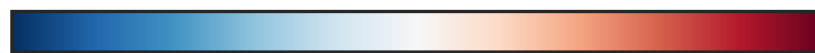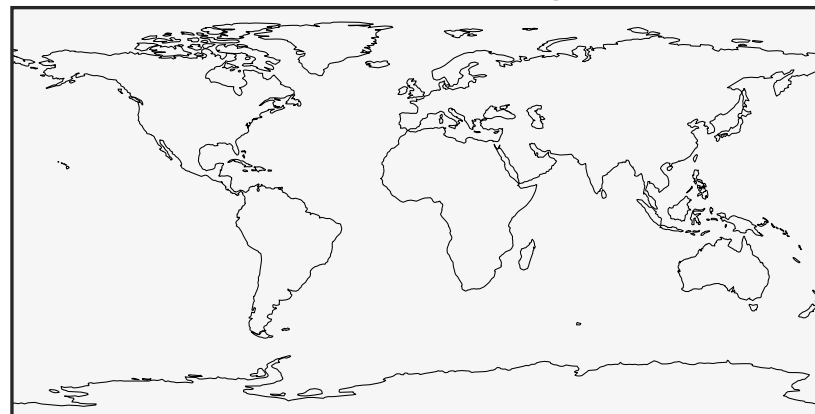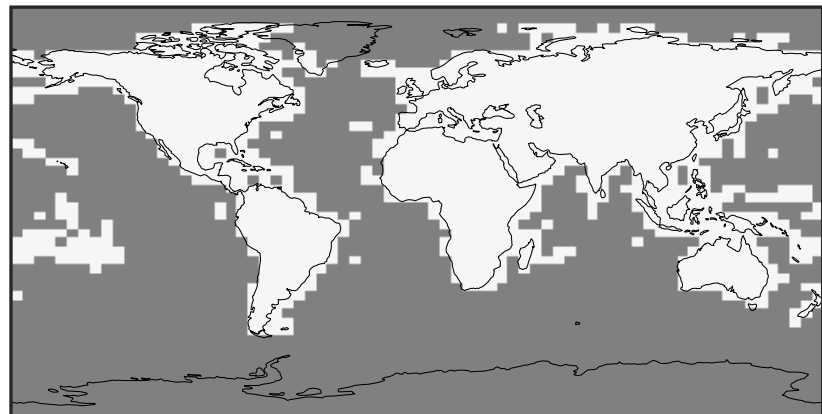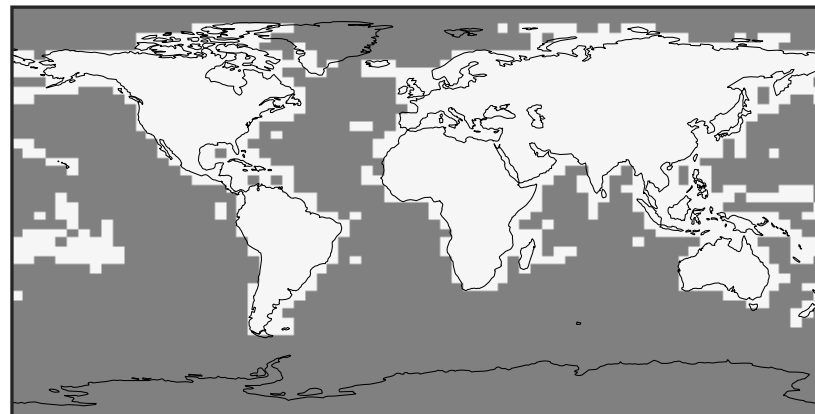unitless

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

EmisBENZ_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s   1e−11

kg/m2/s   1e−11

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisBENZ_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

kg/m2/s

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

Difference
Dev - Ref, Dynamic Range
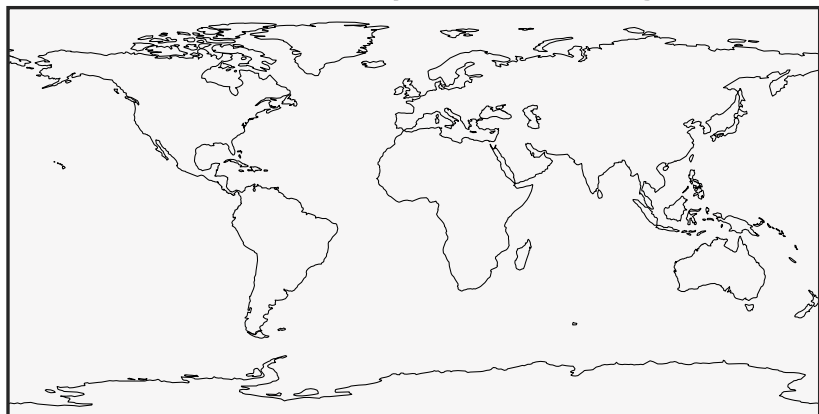
Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ref and Dev equal throughout domain
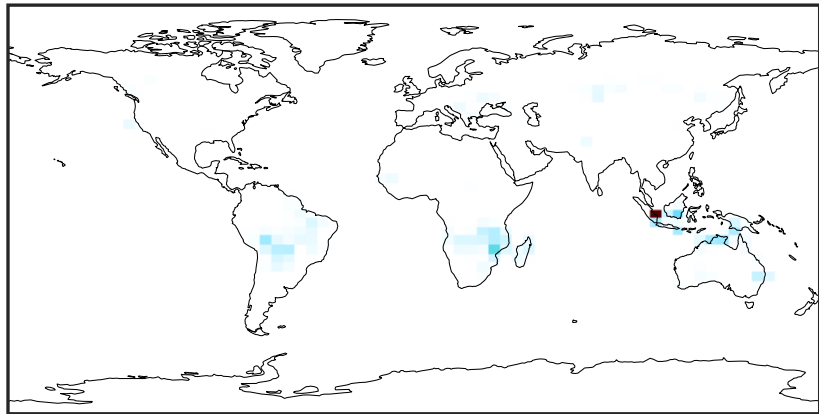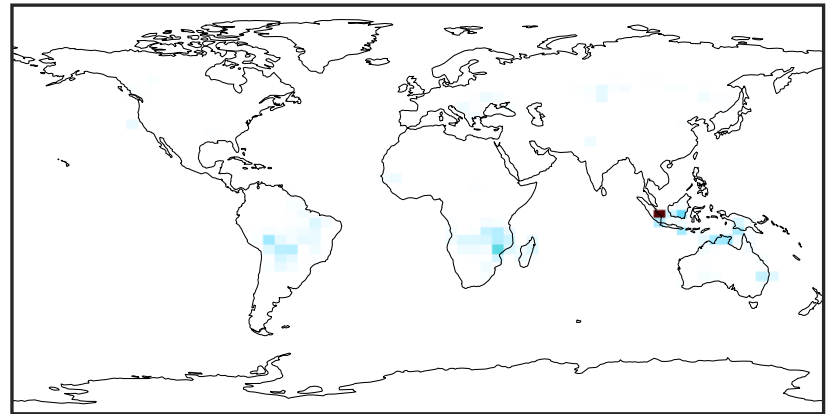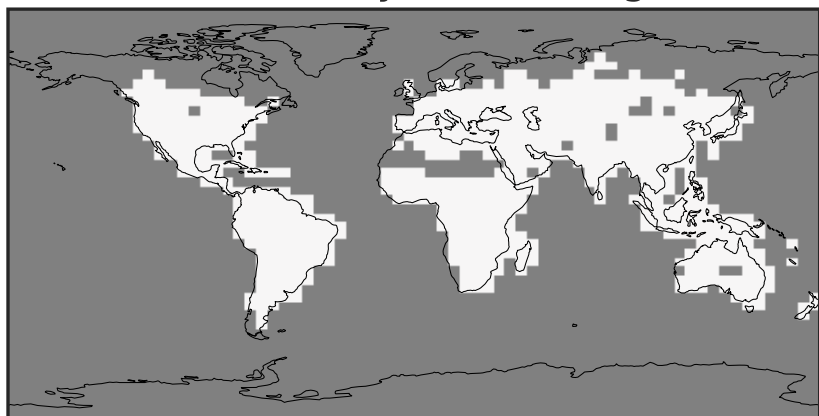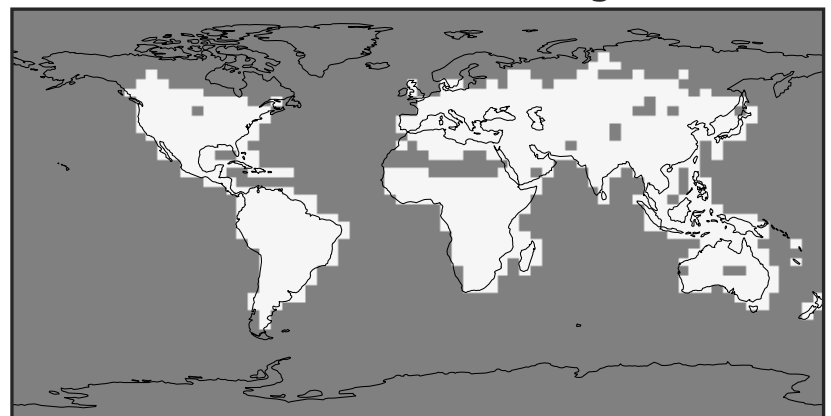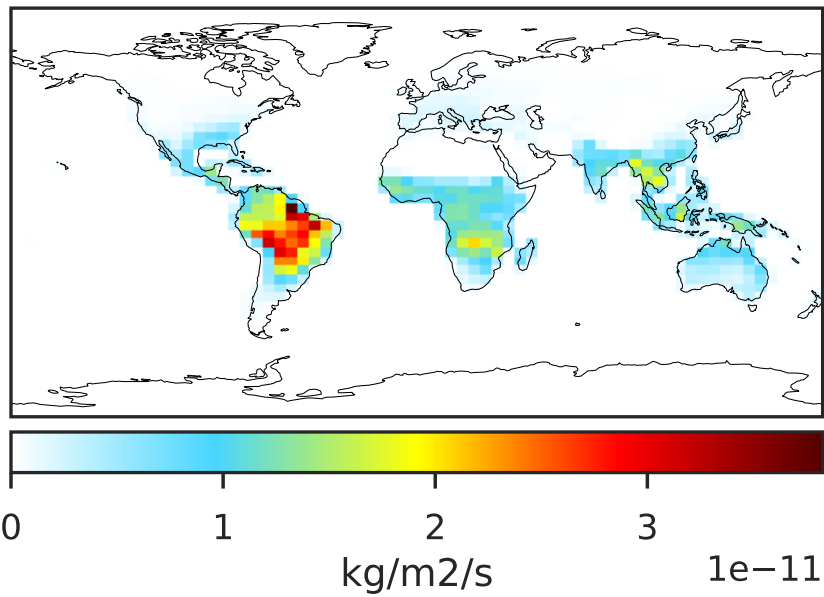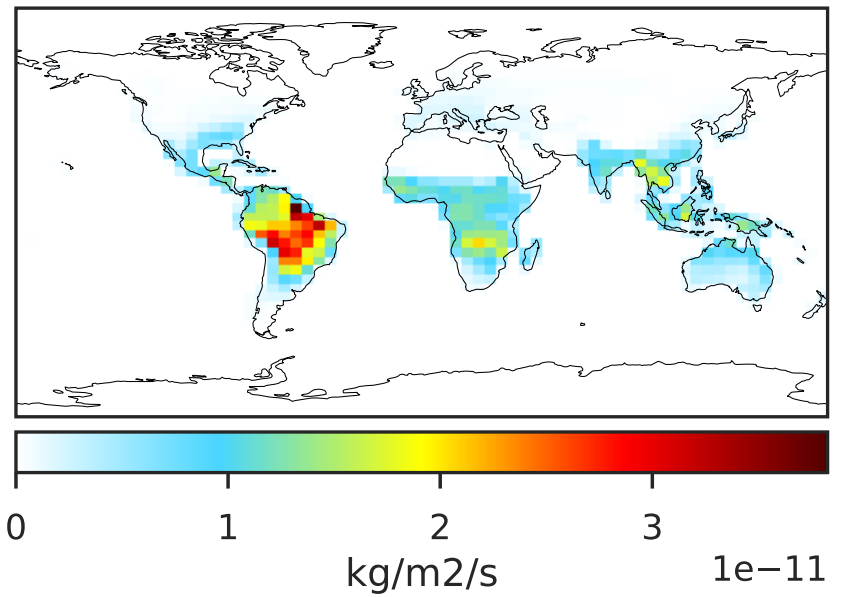unitless

Ratio
Dev/Ref, Fixed Range
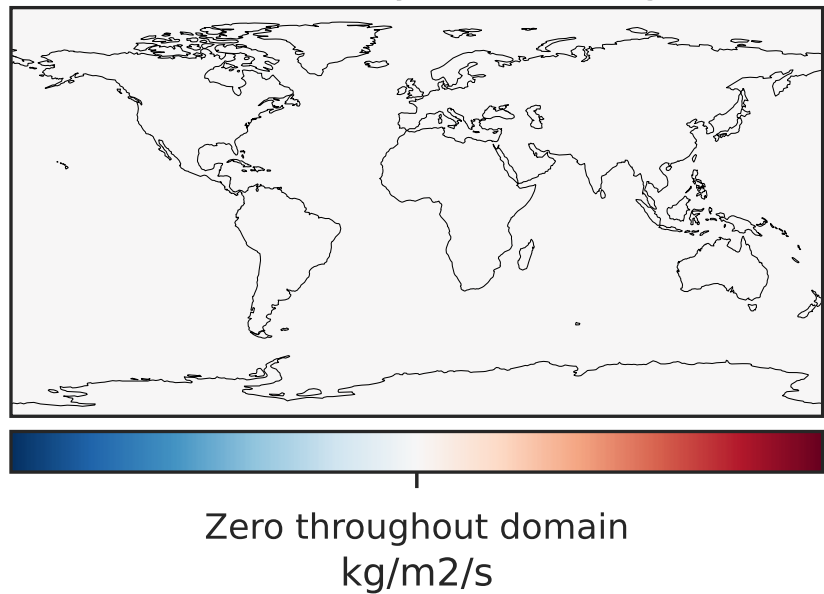

Ref and Dev equal throughout domain
unitless

EmisBENZ_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
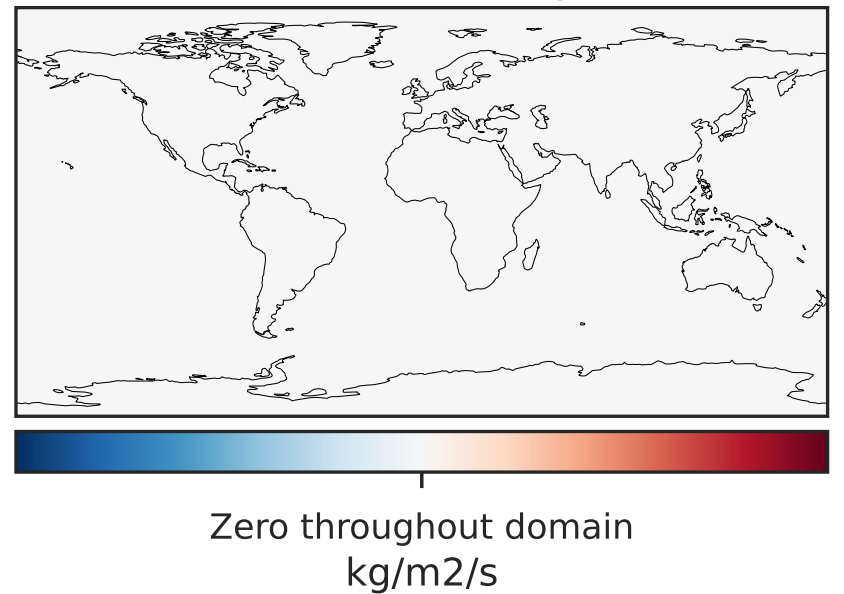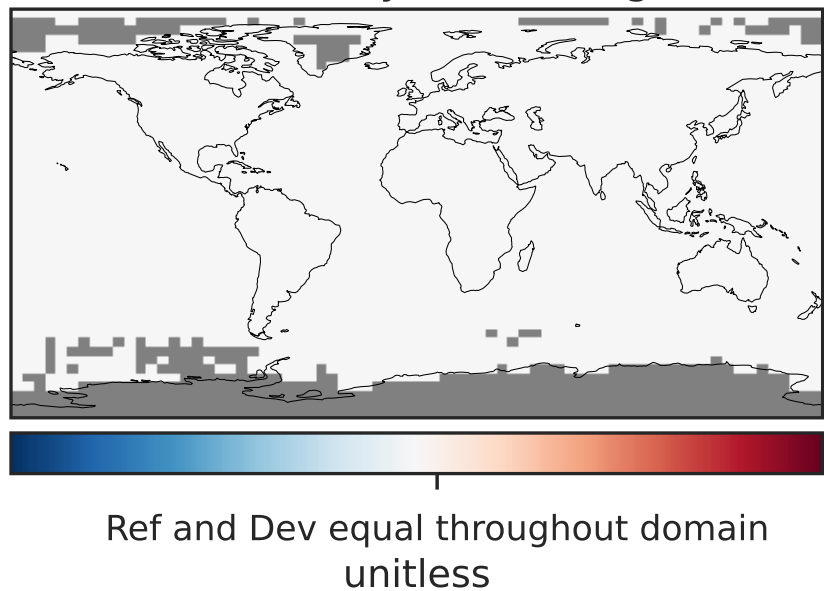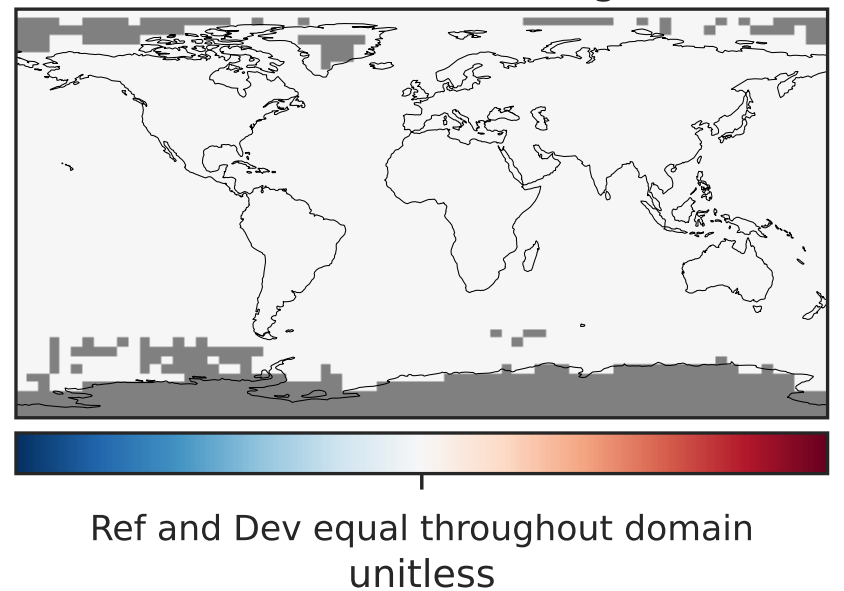### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

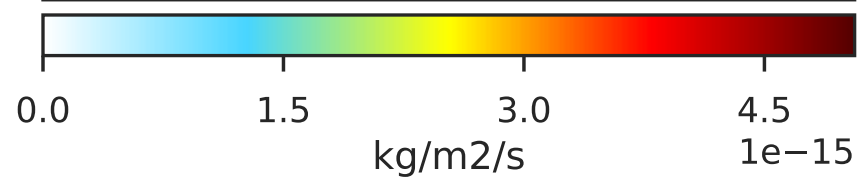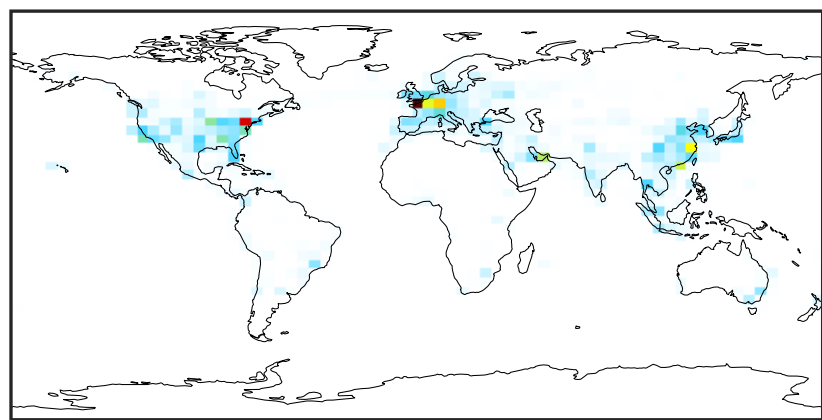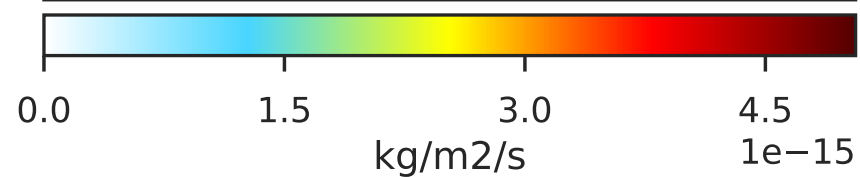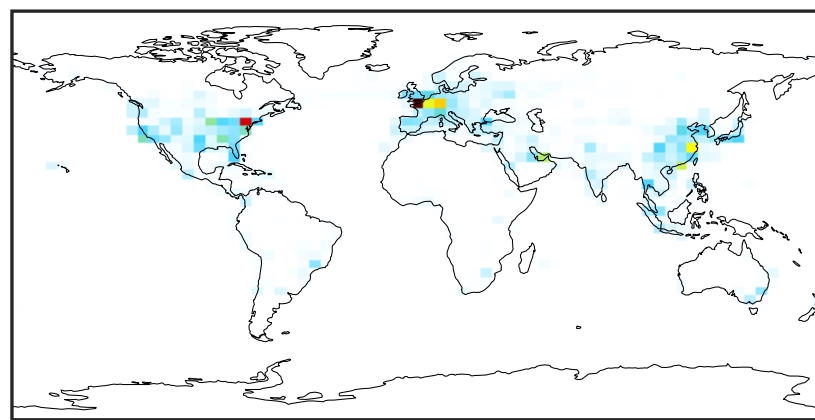Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisC2H2_Anthro (Oct2019)

EmisC2H2_BioBurn (Oct2019)

EmisC2H2_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

1e−14

kg/m2/s

1e−14

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisC2H2_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range
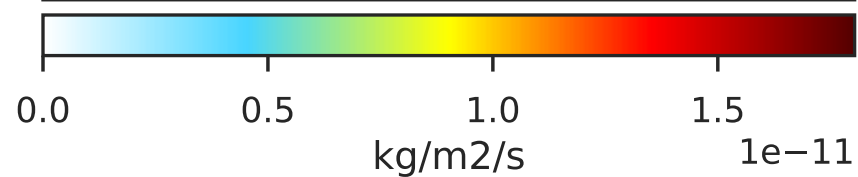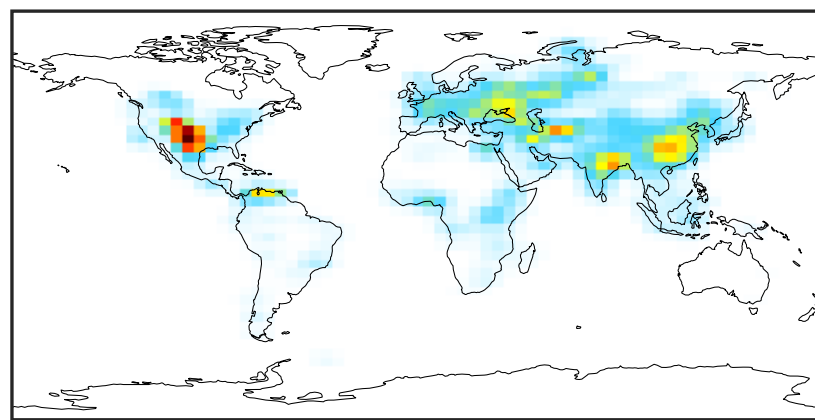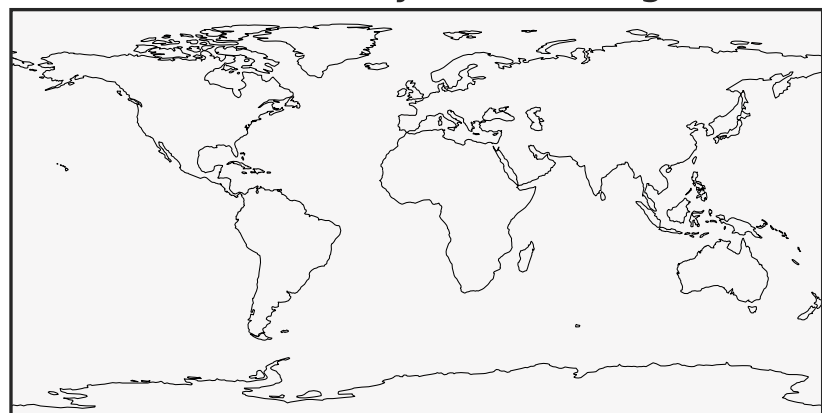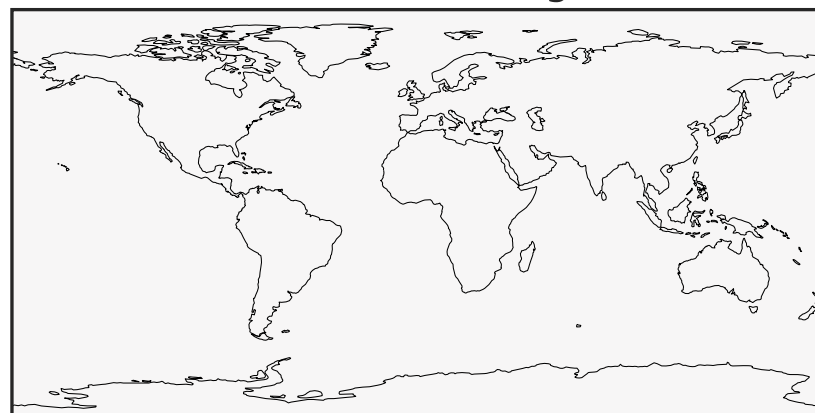
Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisC2H4_Anthro (Oct2019)

EmisC2H4_BioBurn (Oct2019)

EmisC2H4_Biogenic (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

kg/m2/s
1e−11

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s
1e−11

Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

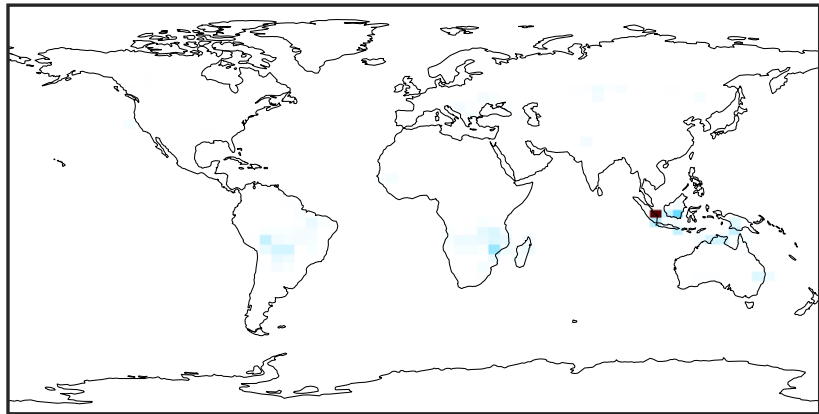Ref and Dev equal throughout domain
unitless

Ratio
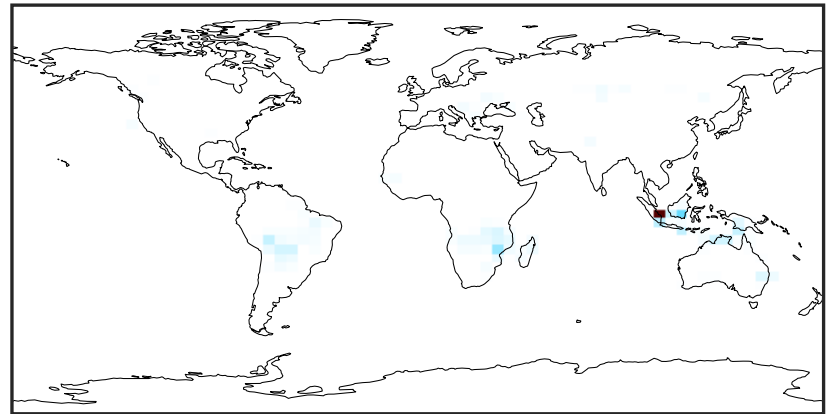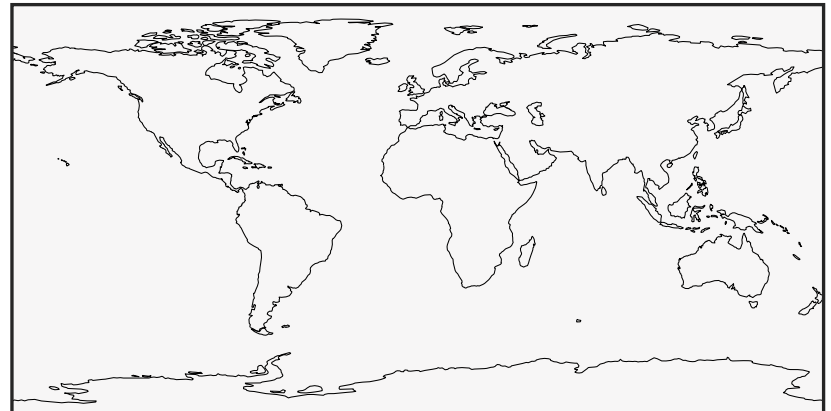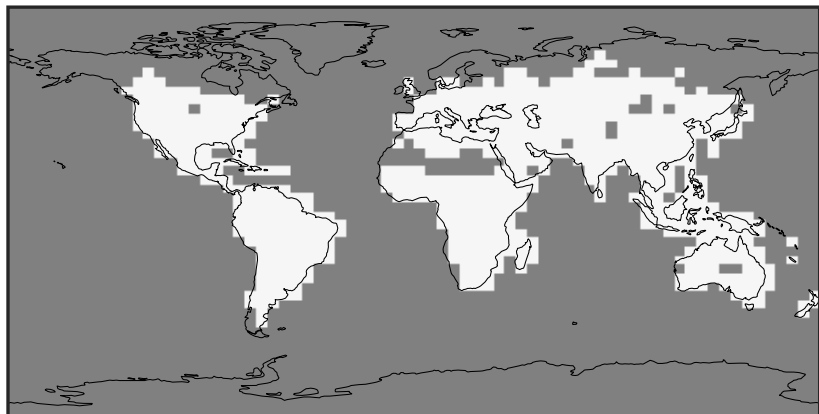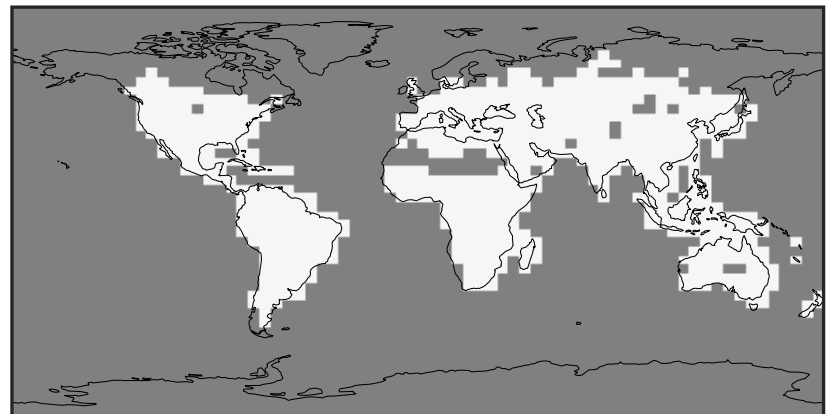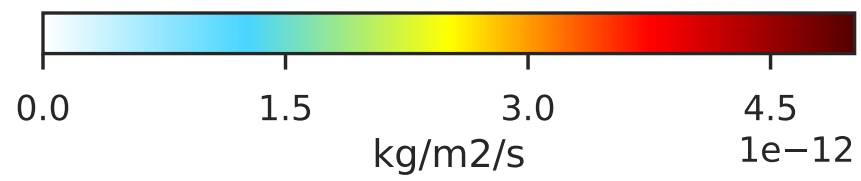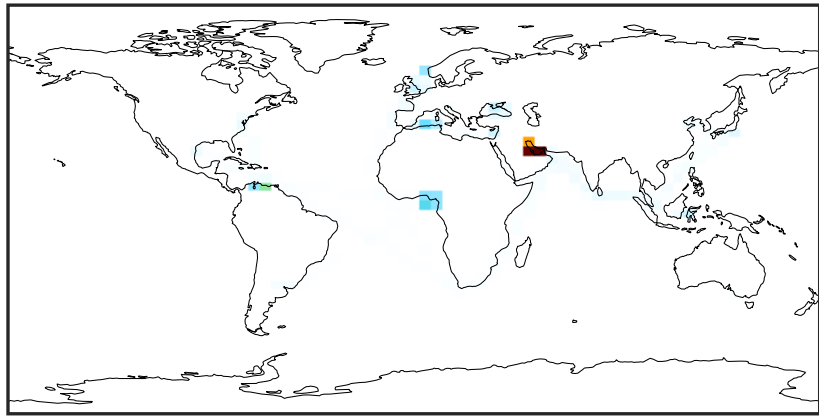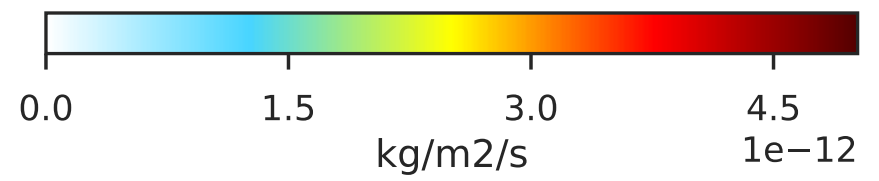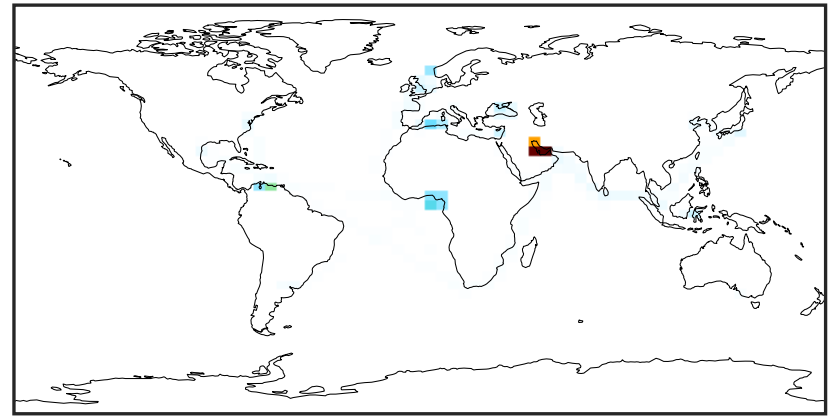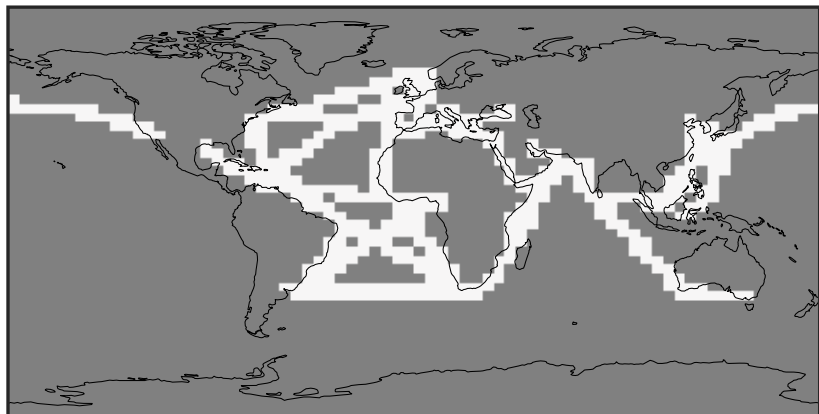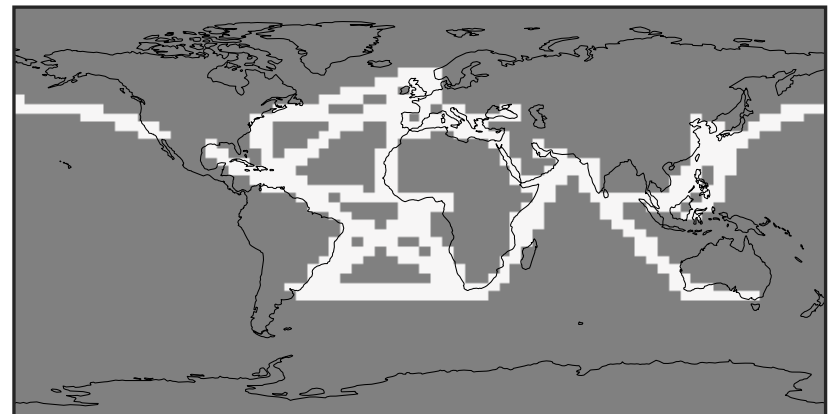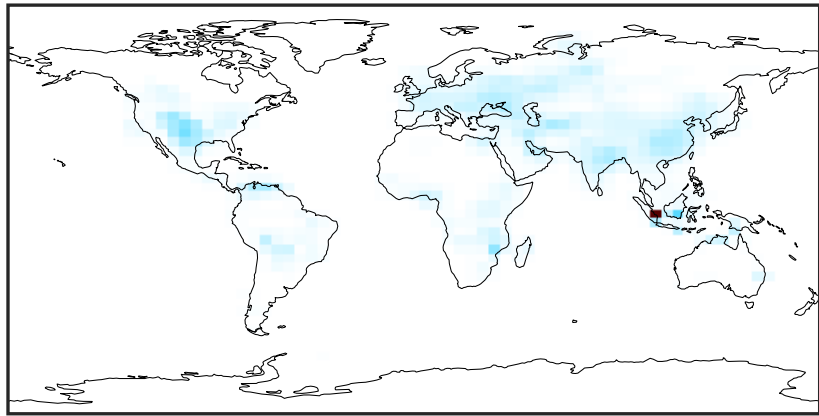Dev/Ref, Fixed Range

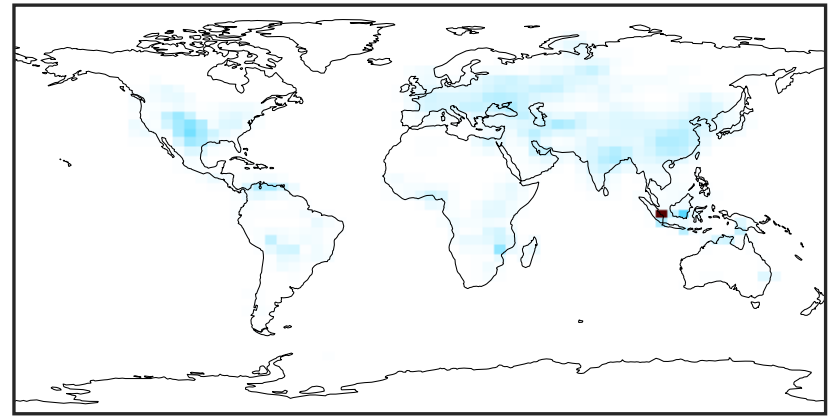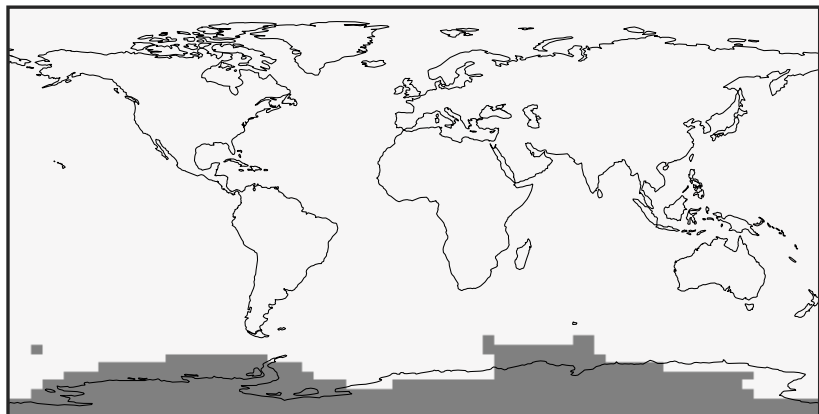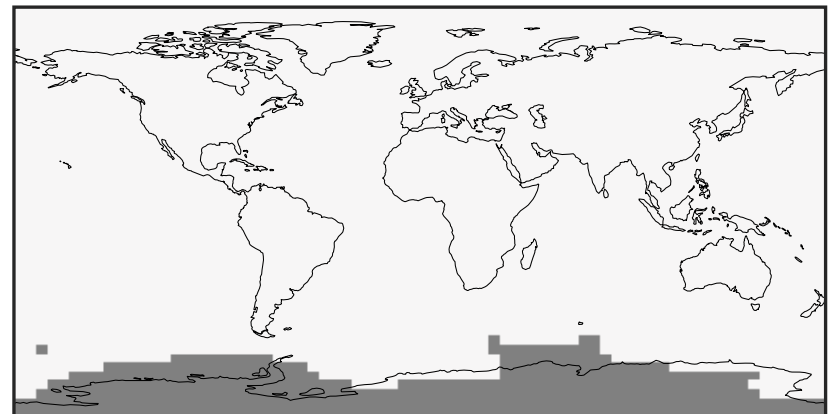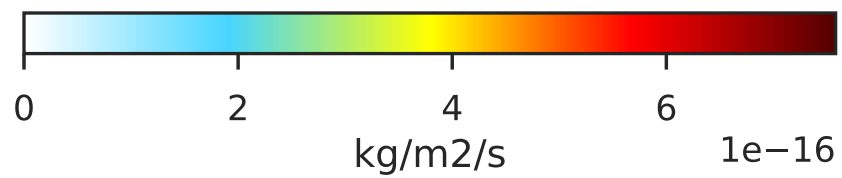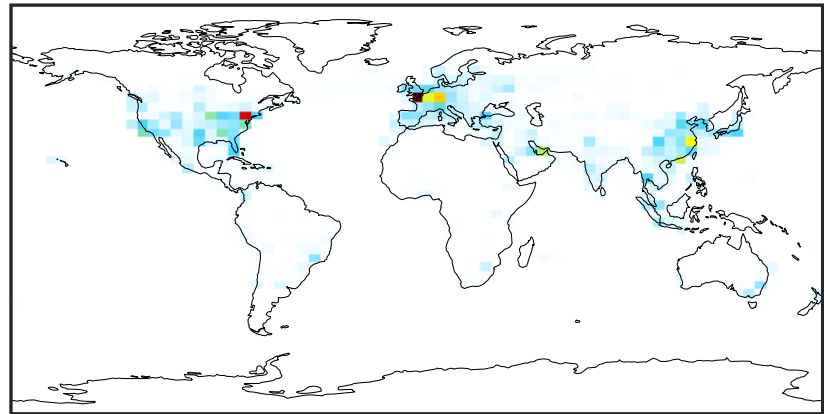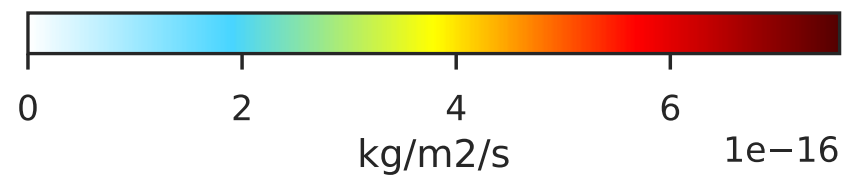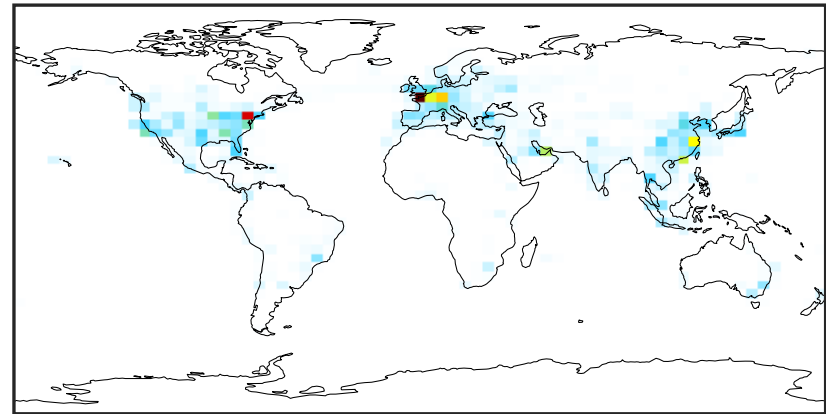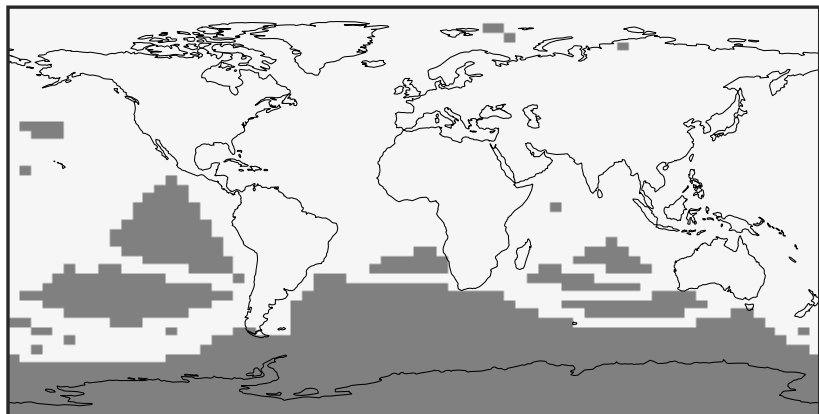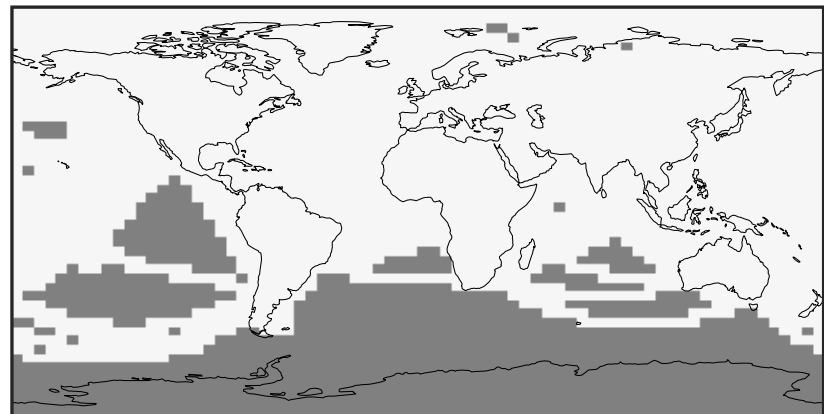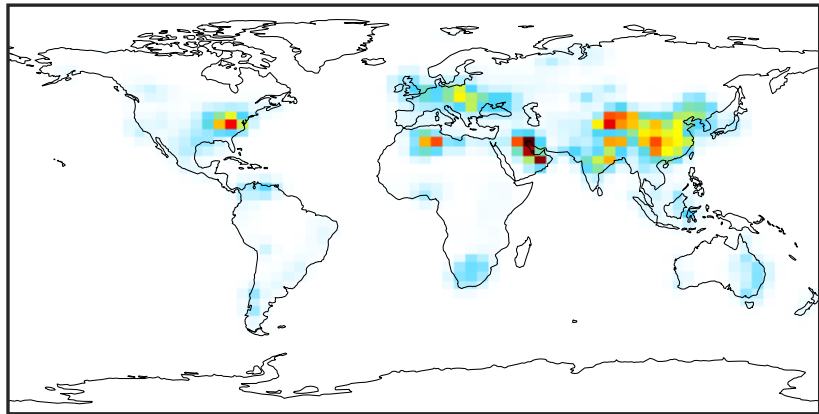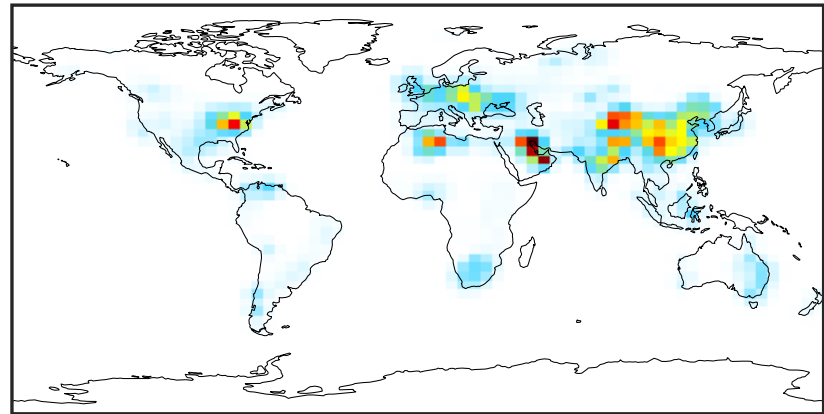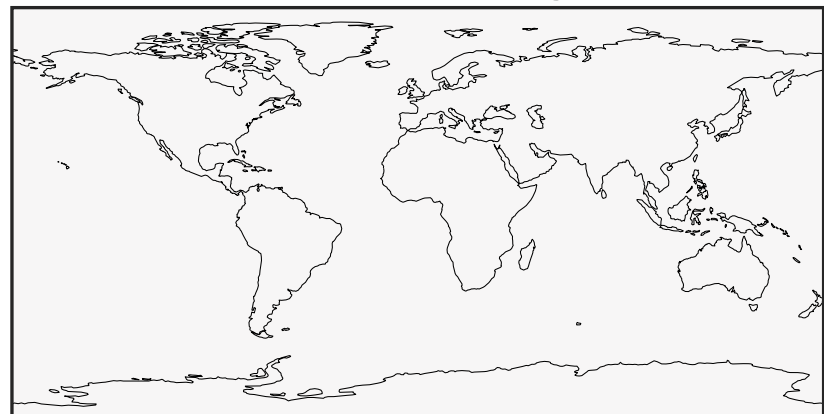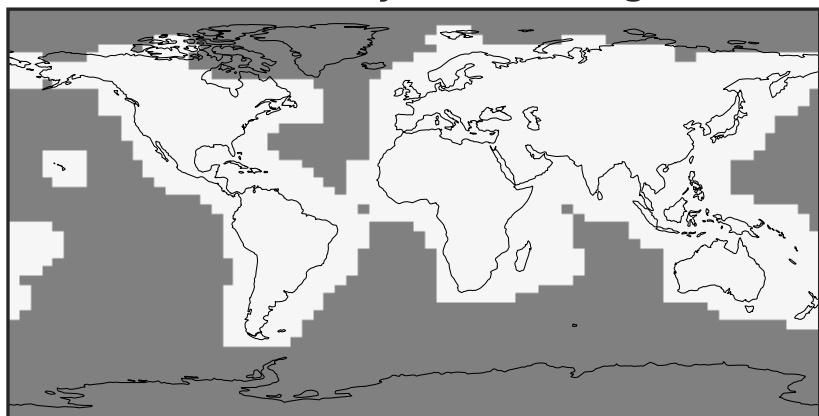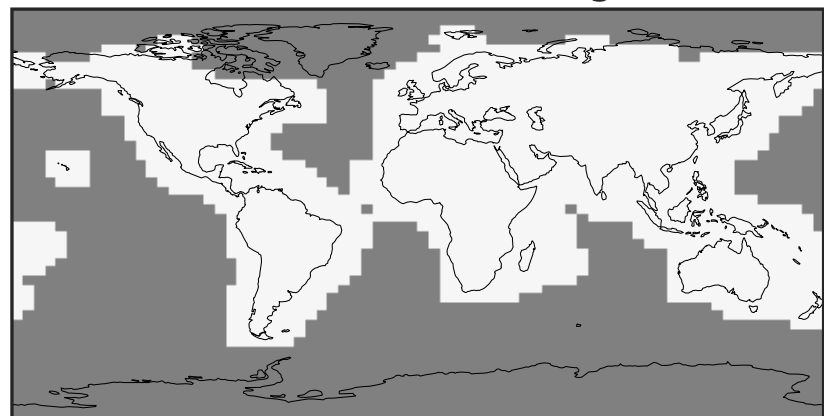Ref and Dev equal throughout domain
unitless
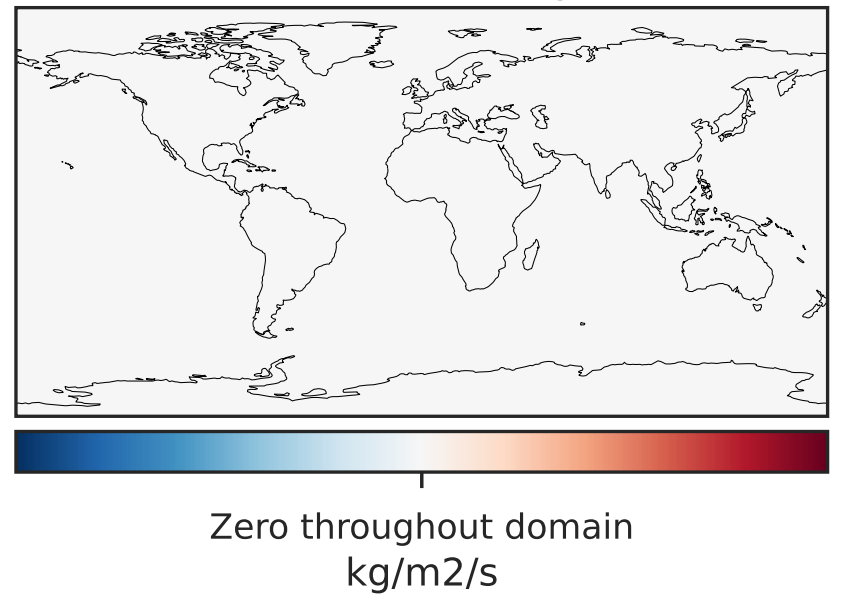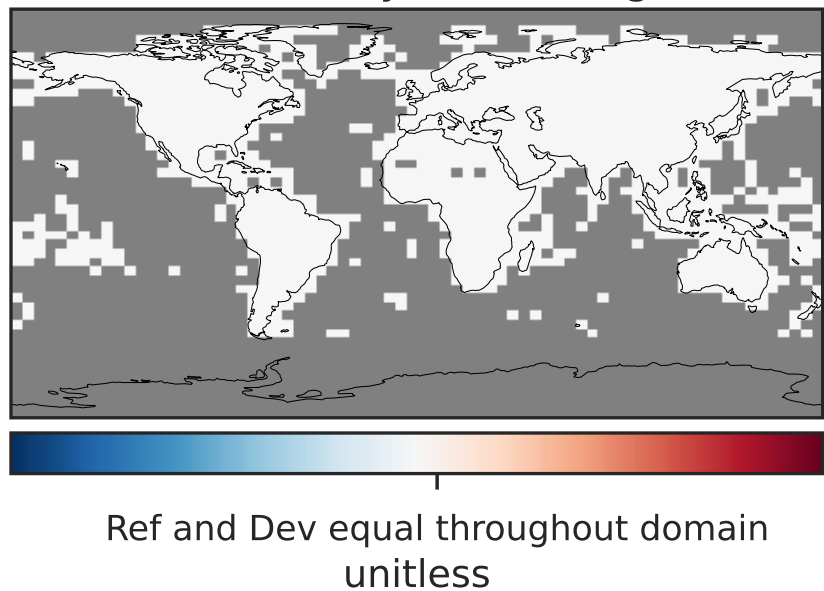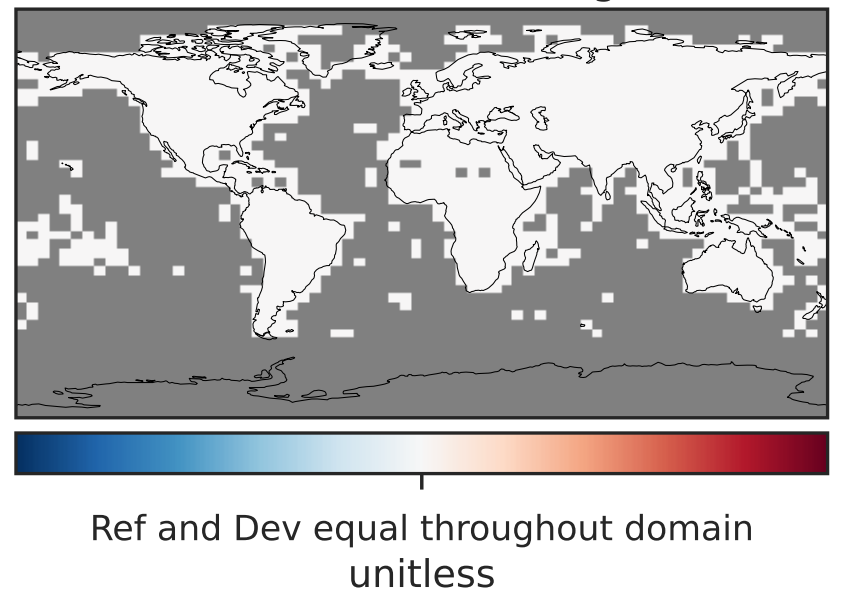
EmisC2H4_Ship (Oct2019)
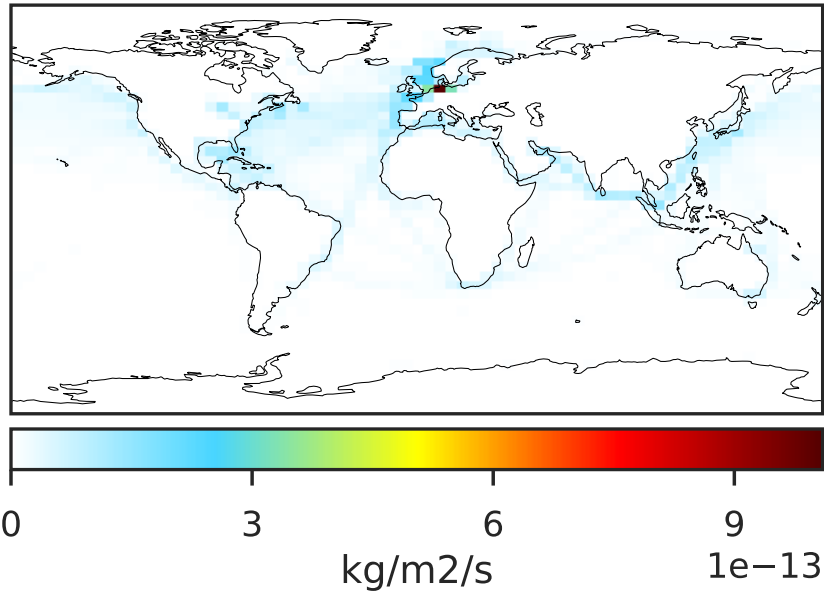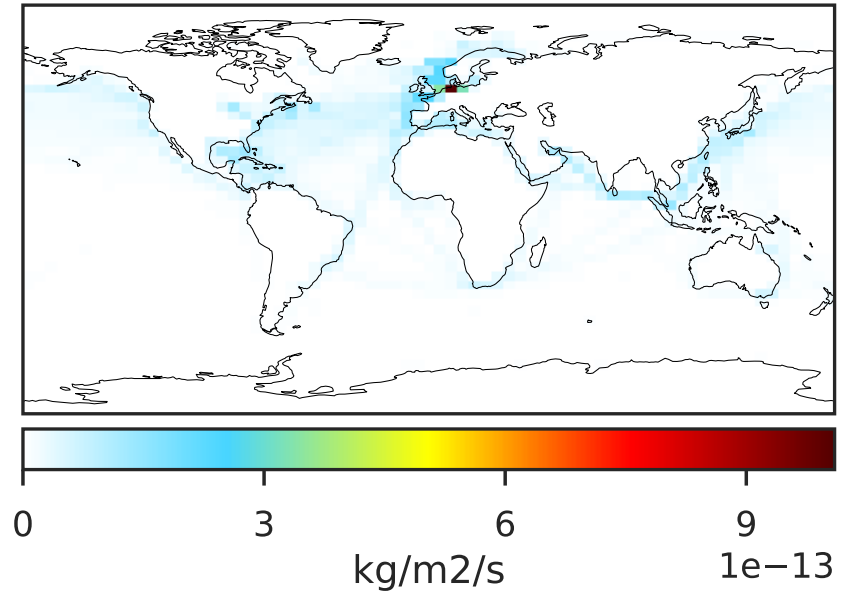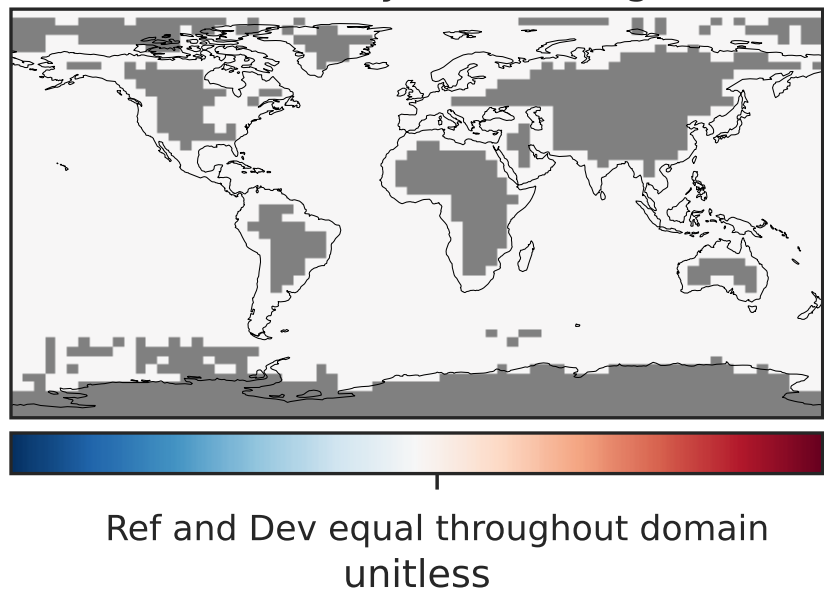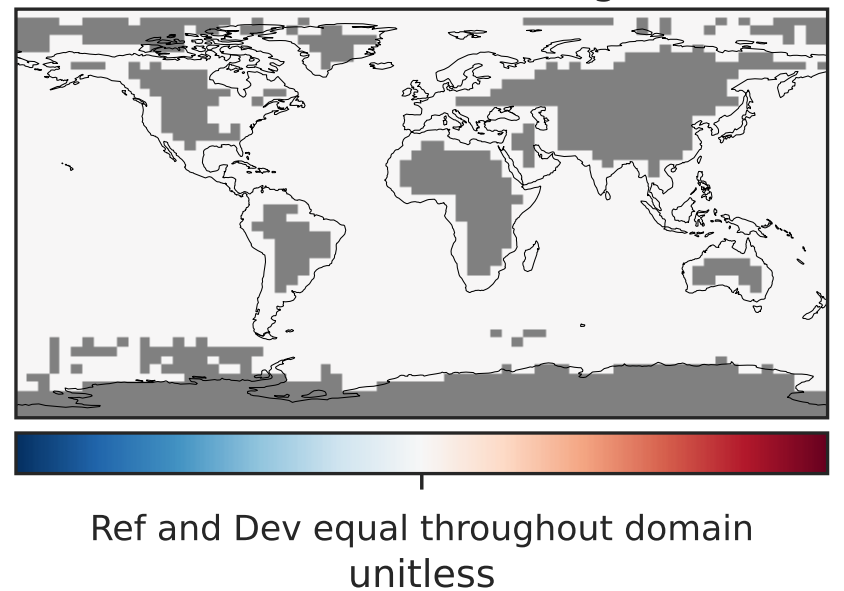
EmisC2H4_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
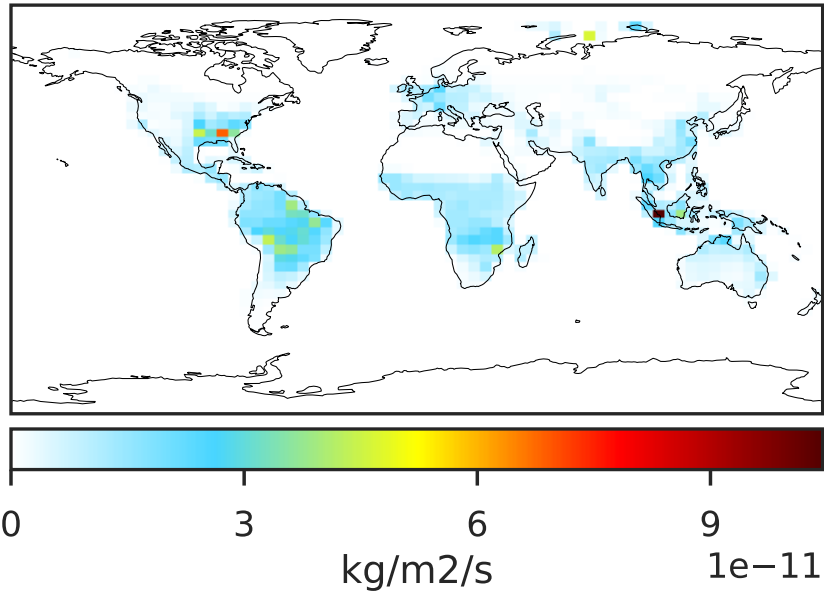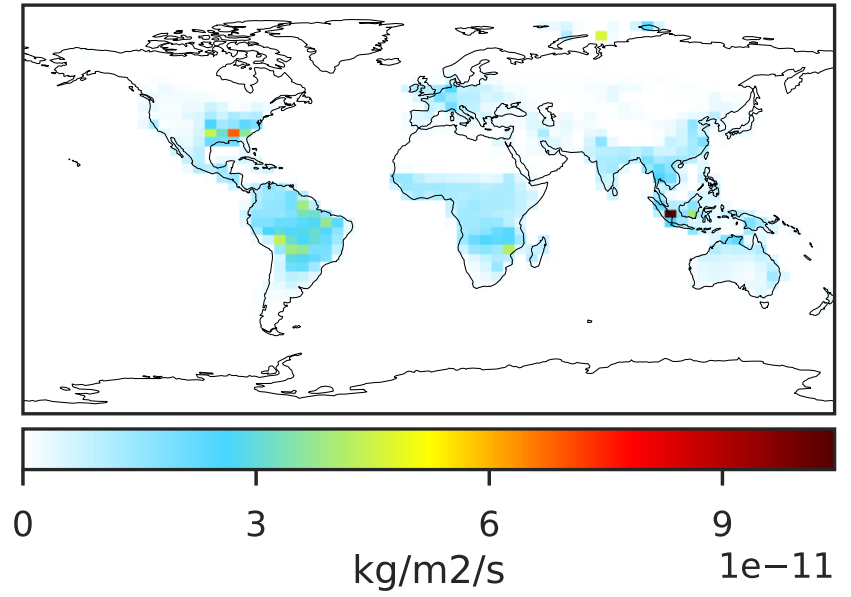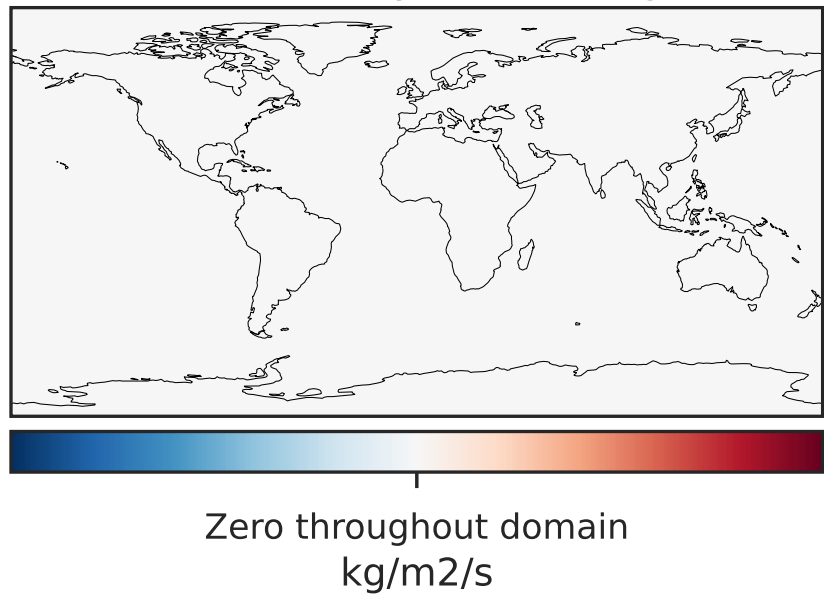
14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisC2H6_Aircraft (Oct2019)
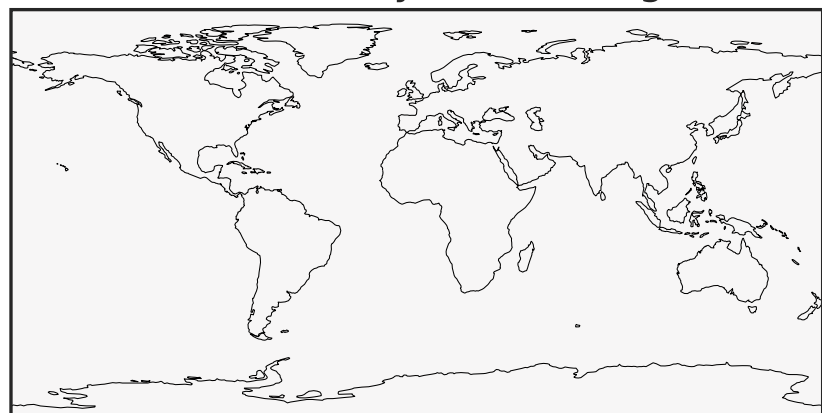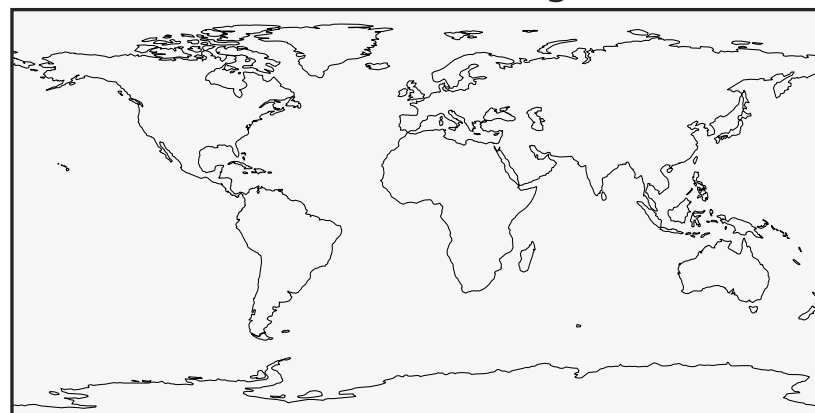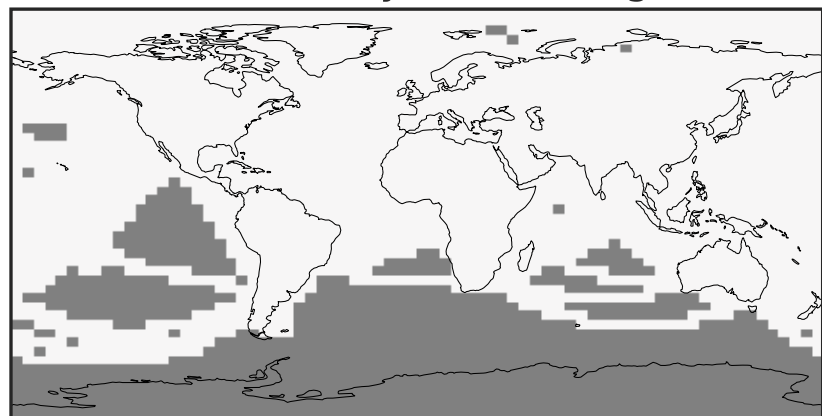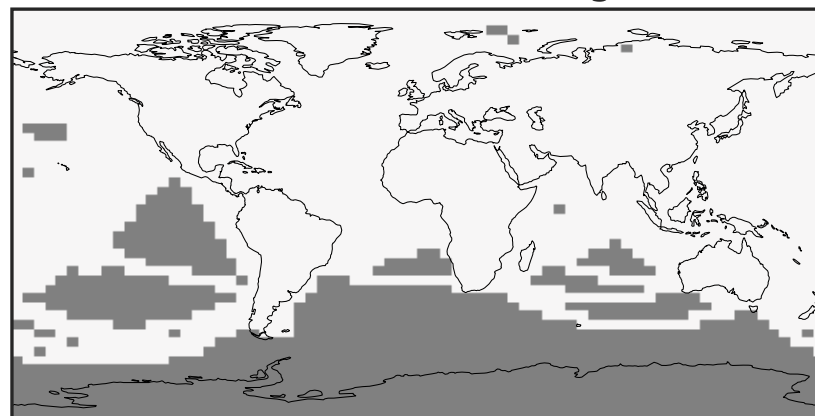
EmisC2H6_Anthro (Oct2019)
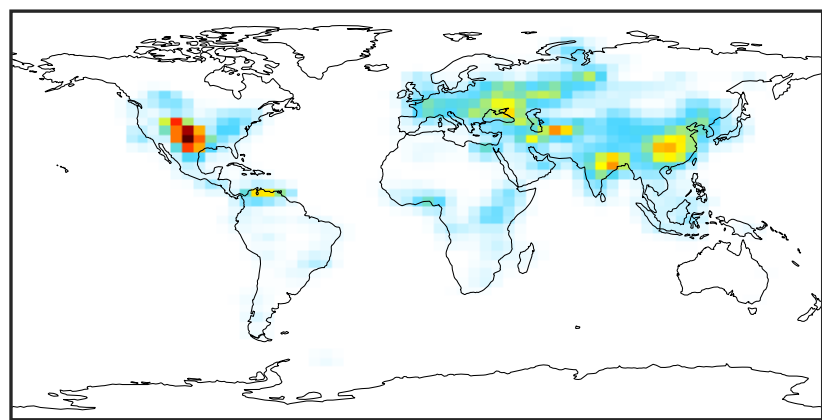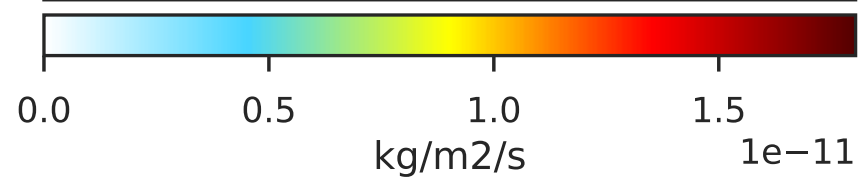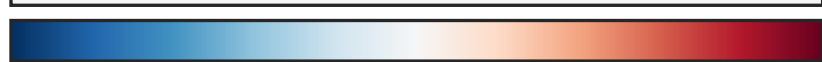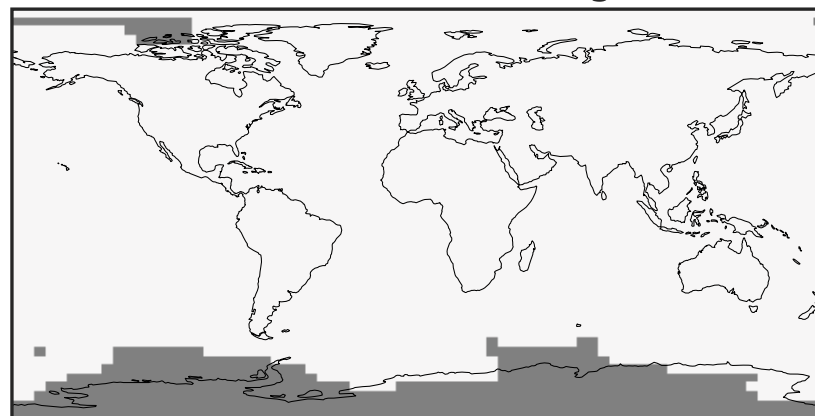
EmisC2H6_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
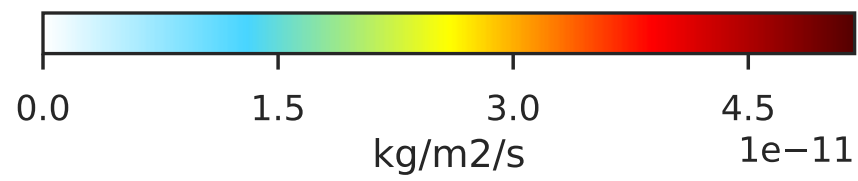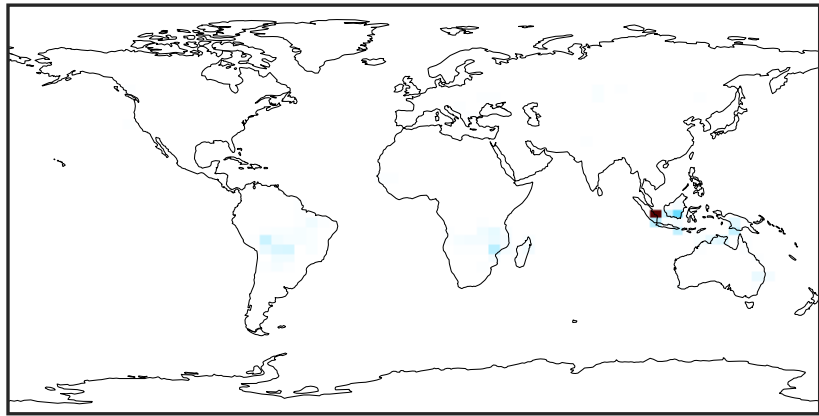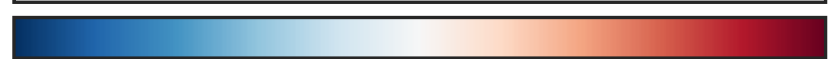kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

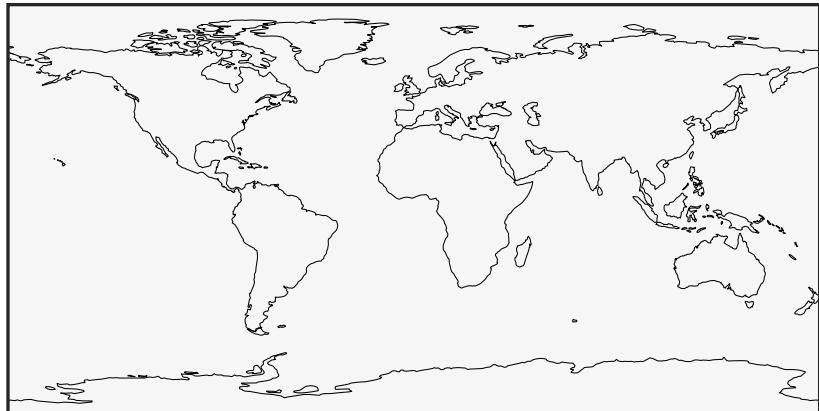# EmisC2H6_Ship (Oct2019)

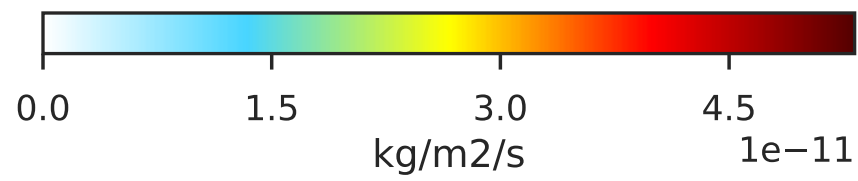## 14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

1e−12

kg/m2/s

1e−12

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s
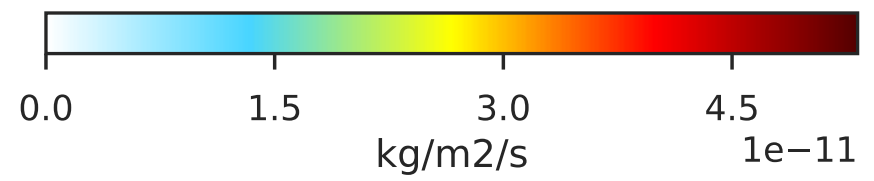
Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
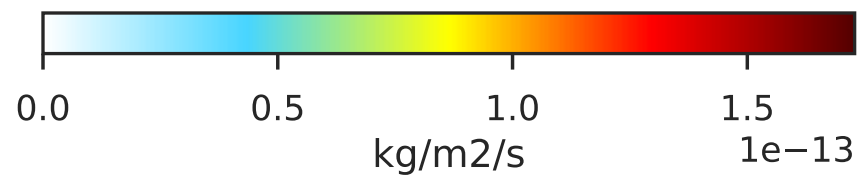### Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisC2H6_Total (Oct2019)

EmisC3H8_Aircraft (Oct2019)

EmisC3H8_Anthro (Oct2019)

EmisC3H8_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0
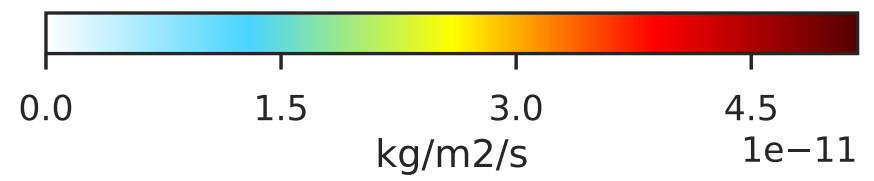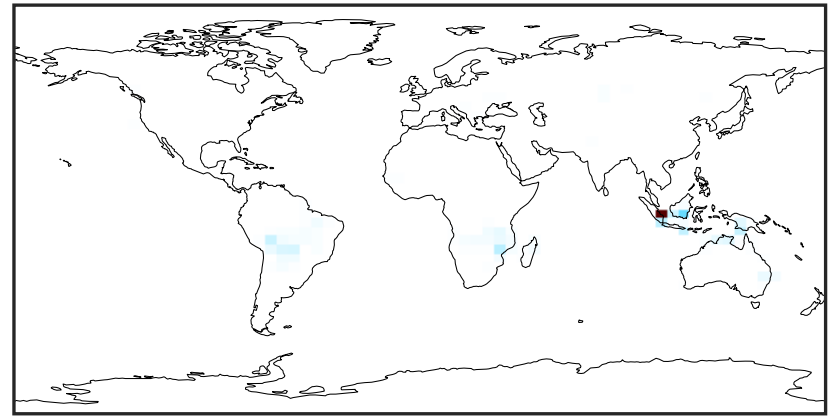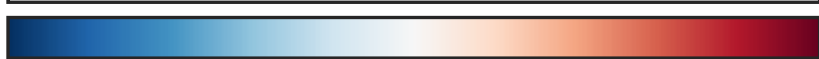
14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
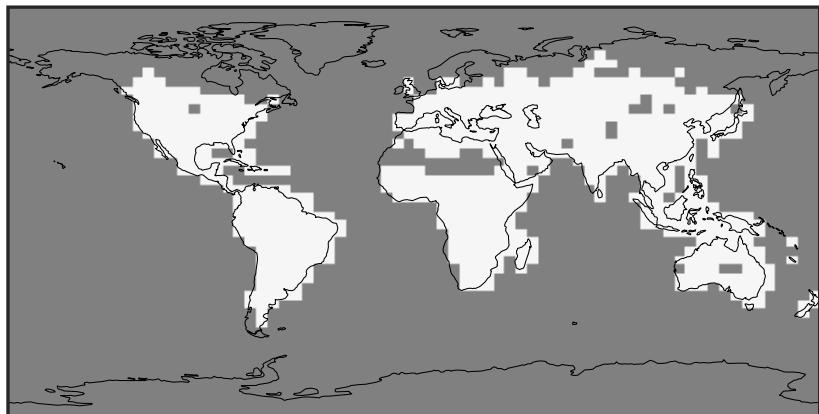
Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless
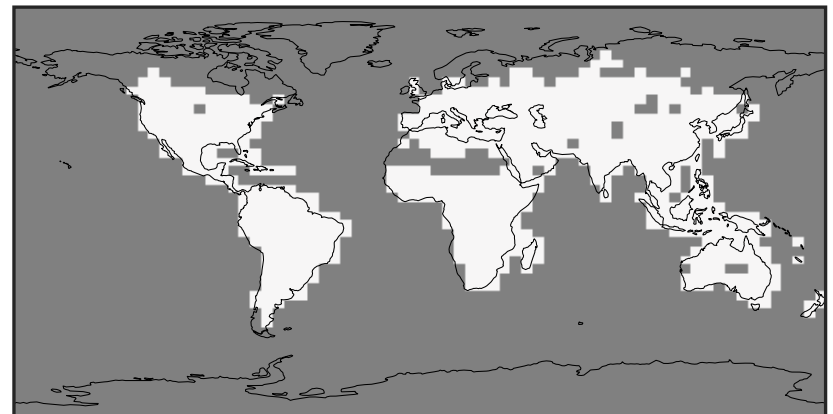
Ref and Dev equal throughout domain
unitless

EmisC3H8_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
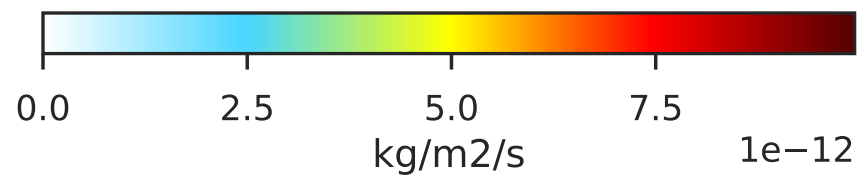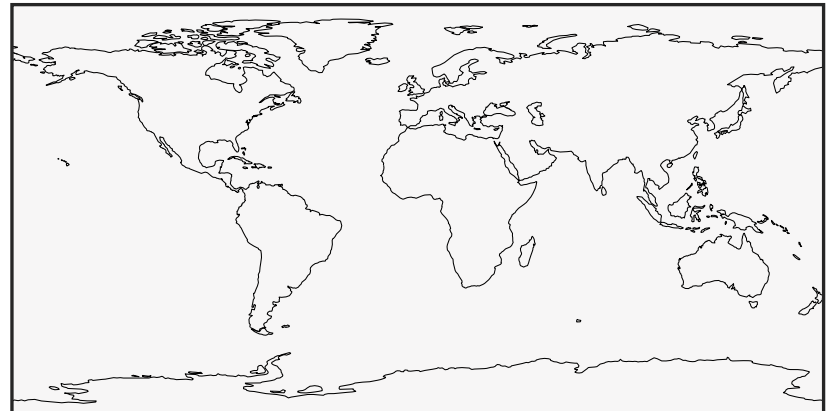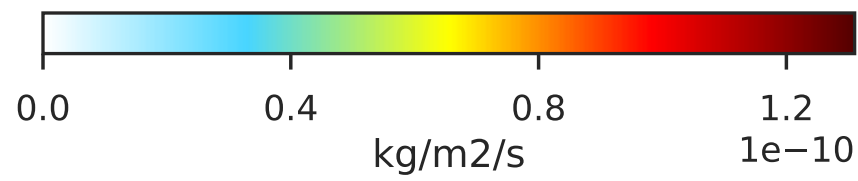kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisC3H8_Total (Oct2019)
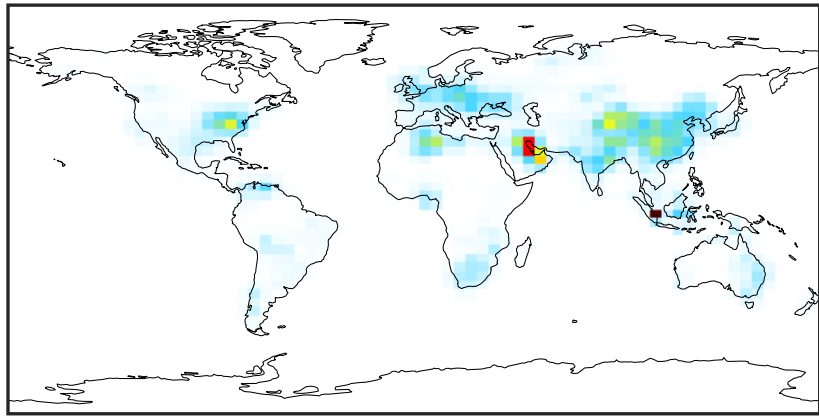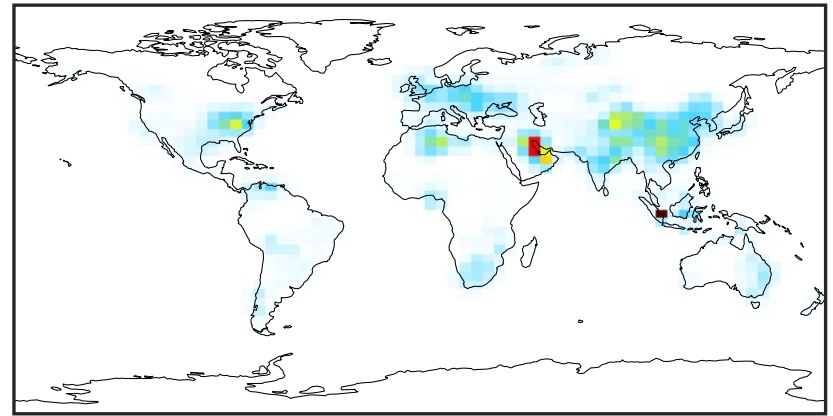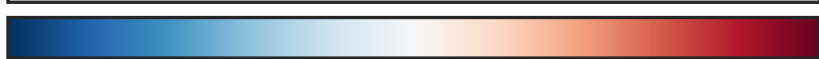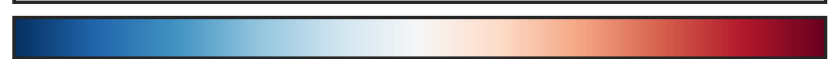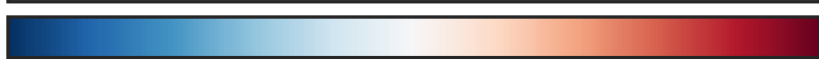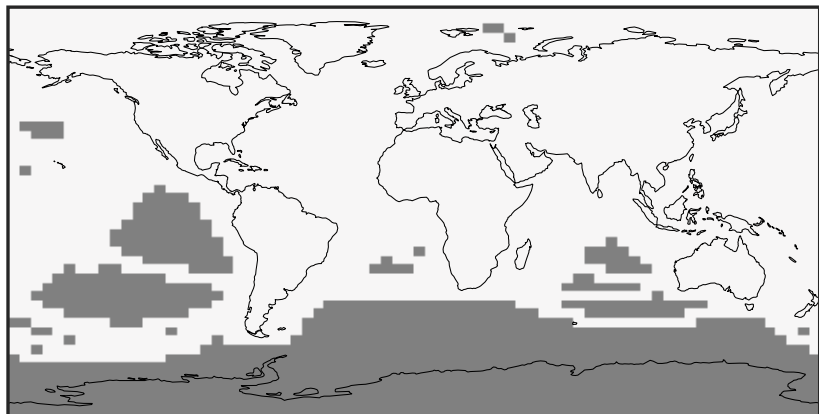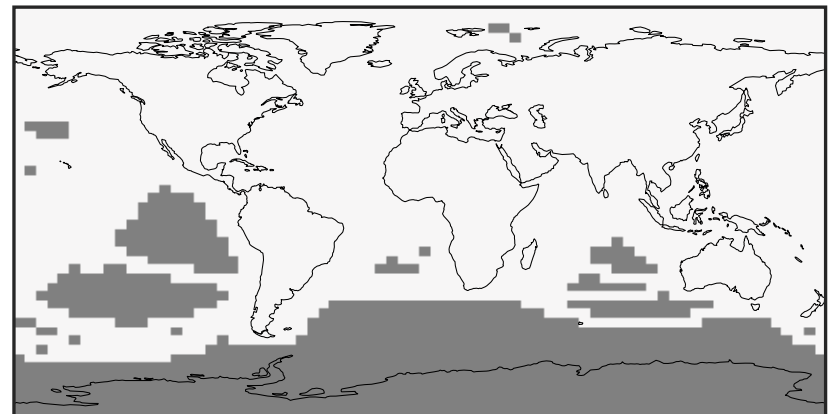
EmisPRPE_Aircraft (Oct2019)
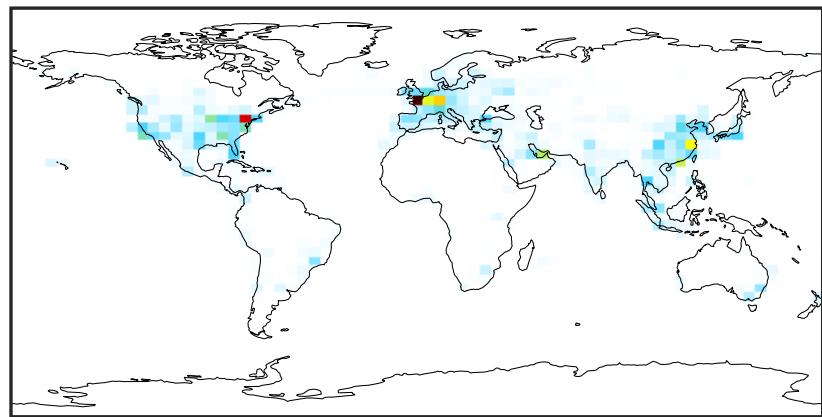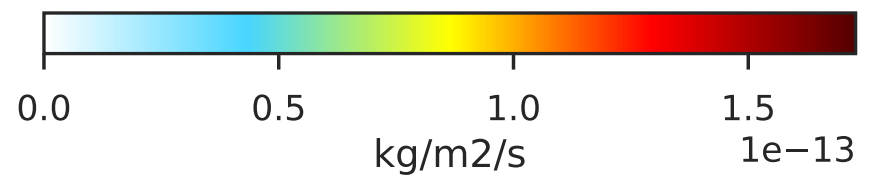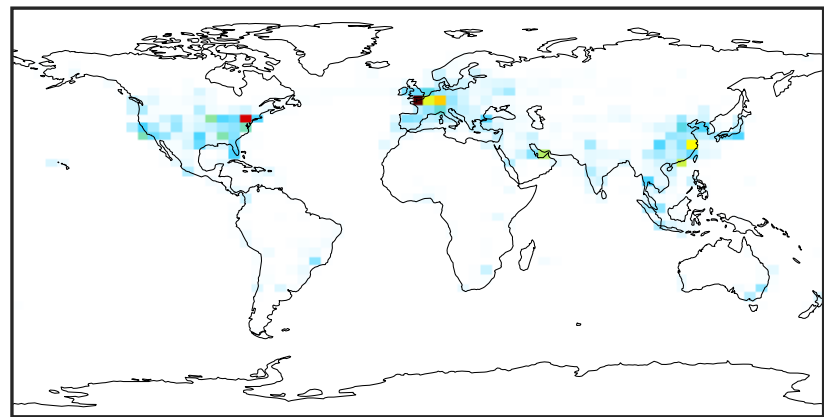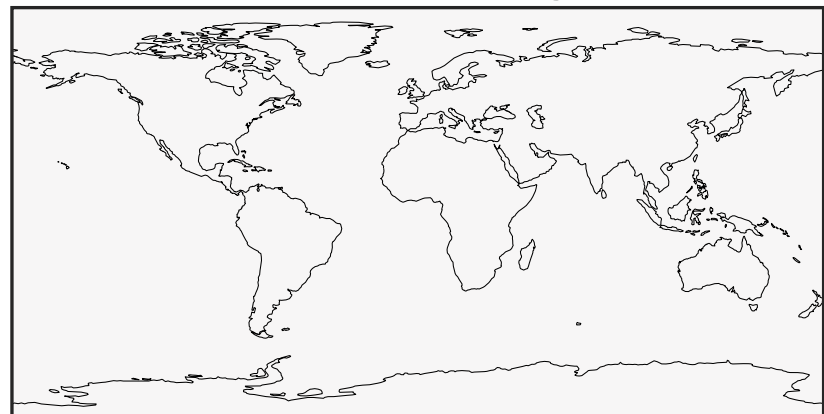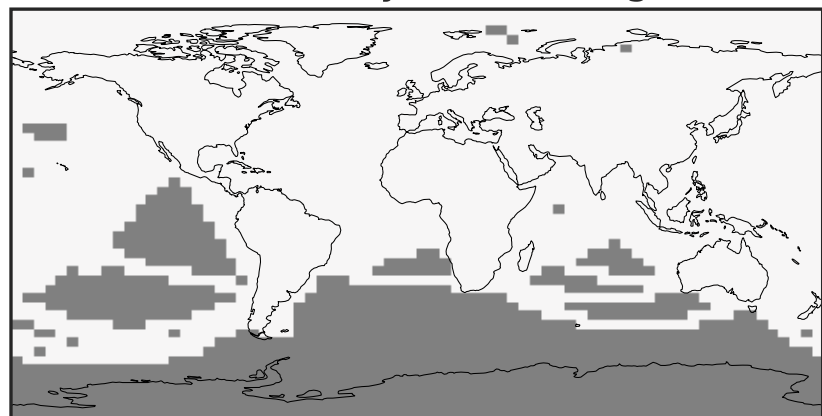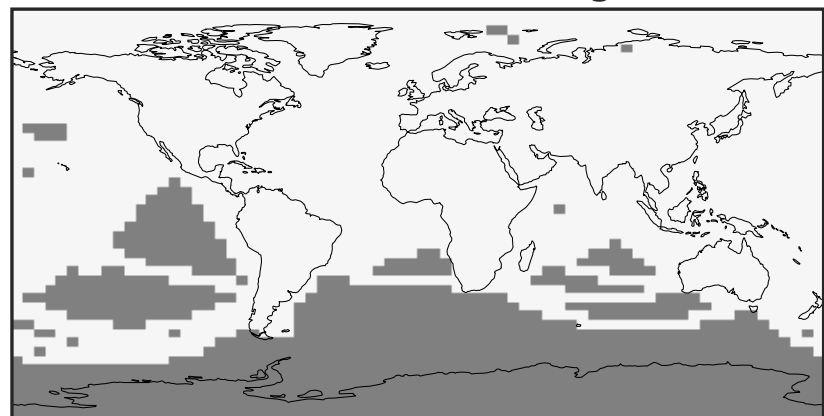
EmisPRPE_Anthro (Oct2019)
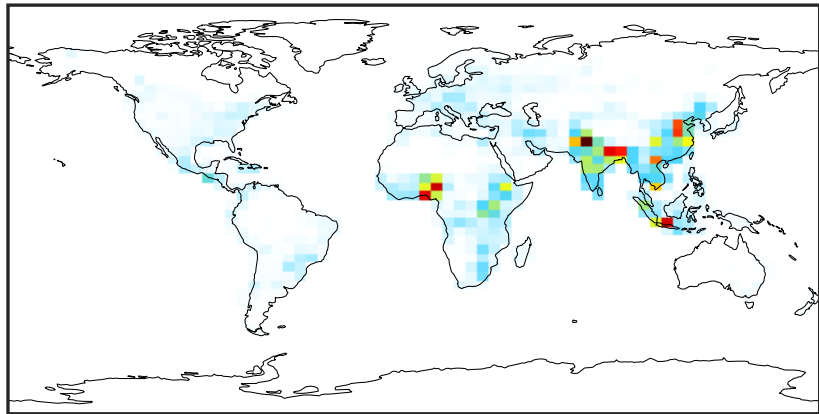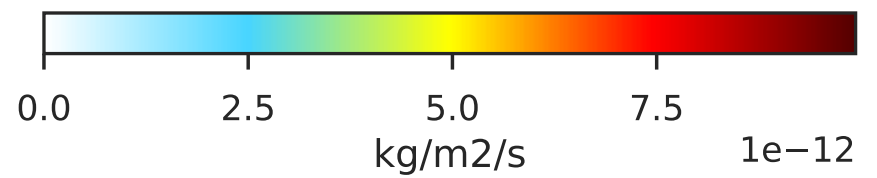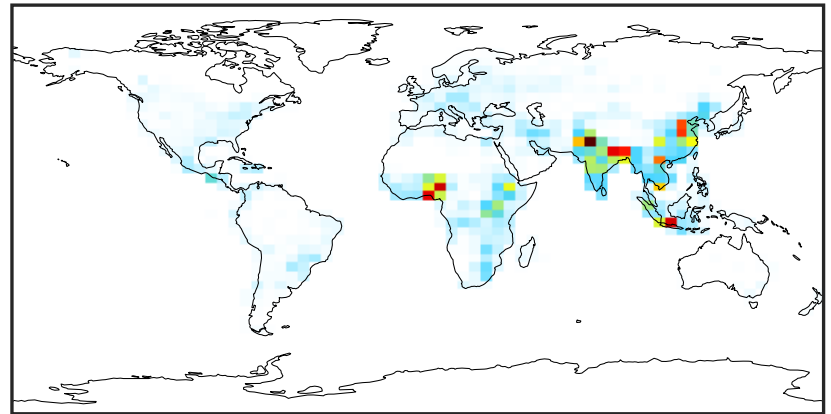
EmisPRPE_BioBurn (Oct2019)
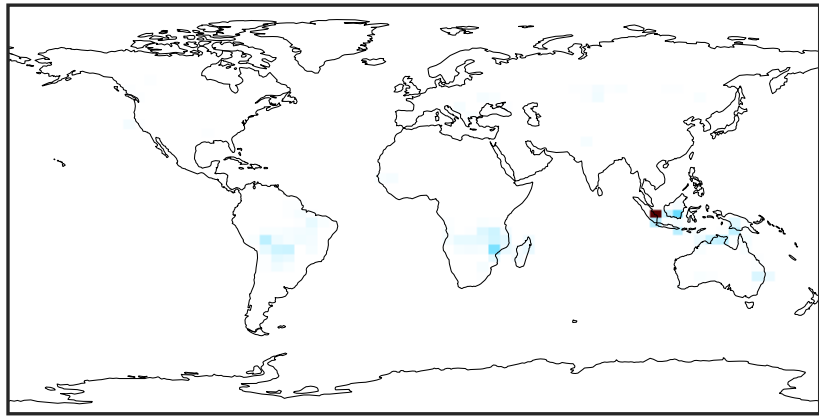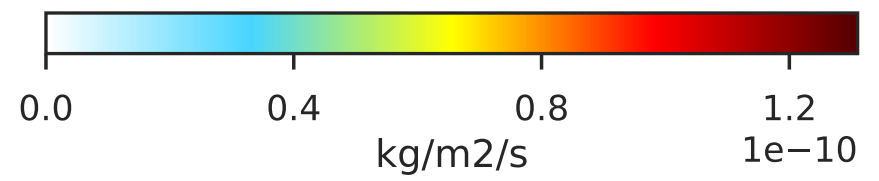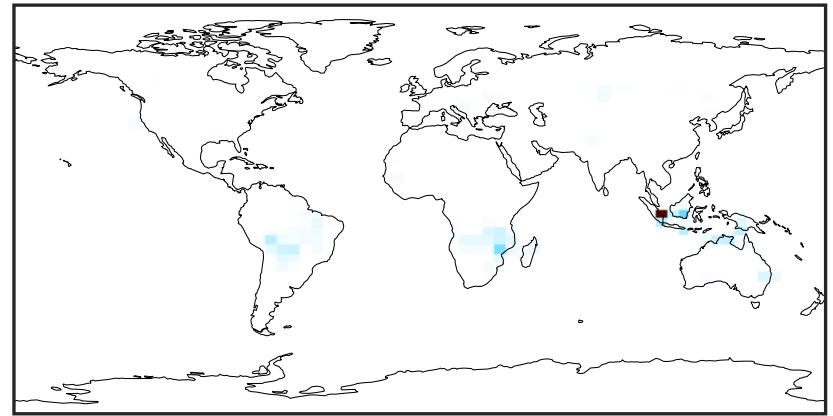
14.2.0-rc.2 (Ref)
4.0x5.0

0.0   0.4   0.8   1.2
kg/m2/s   1e−10

14.3.0-rc.0 (Dev)
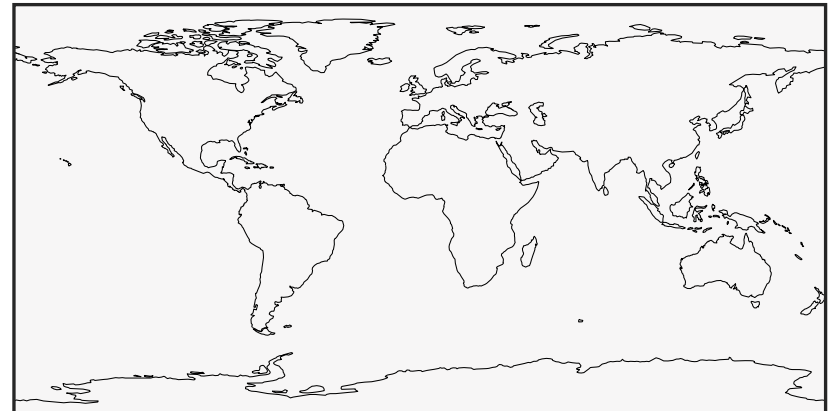### 4.0x5.0

0.0   0.4   0.8   1.2
kg/m2/s   1e−10

Difference
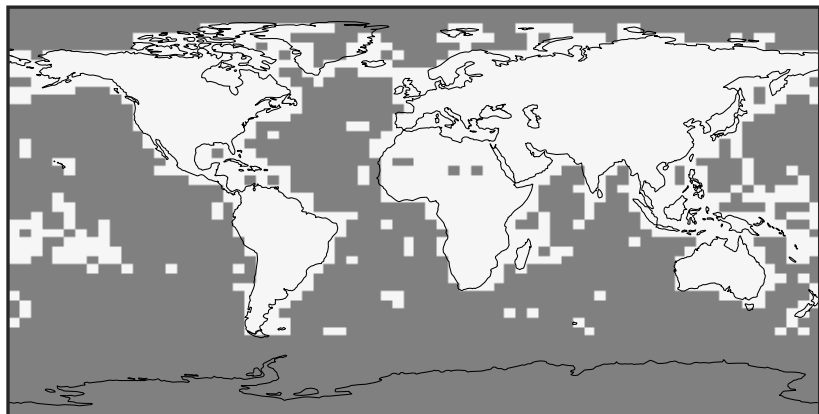### Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
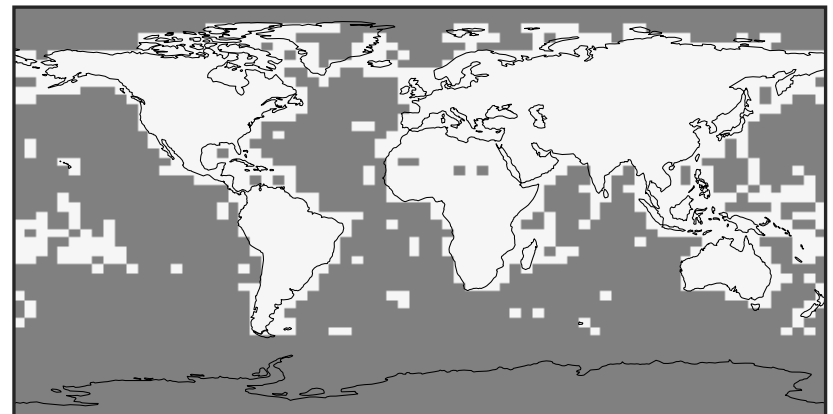### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
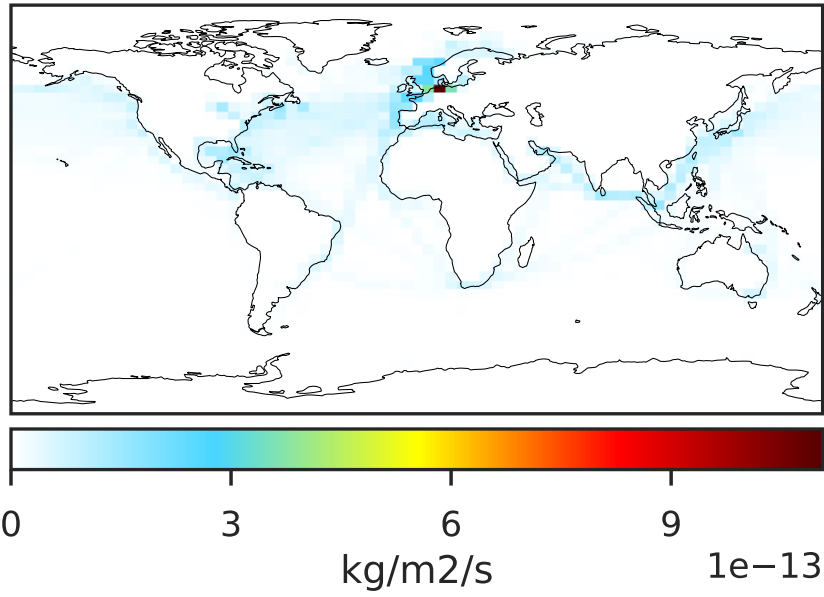

Ref and Dev equal throughout domain
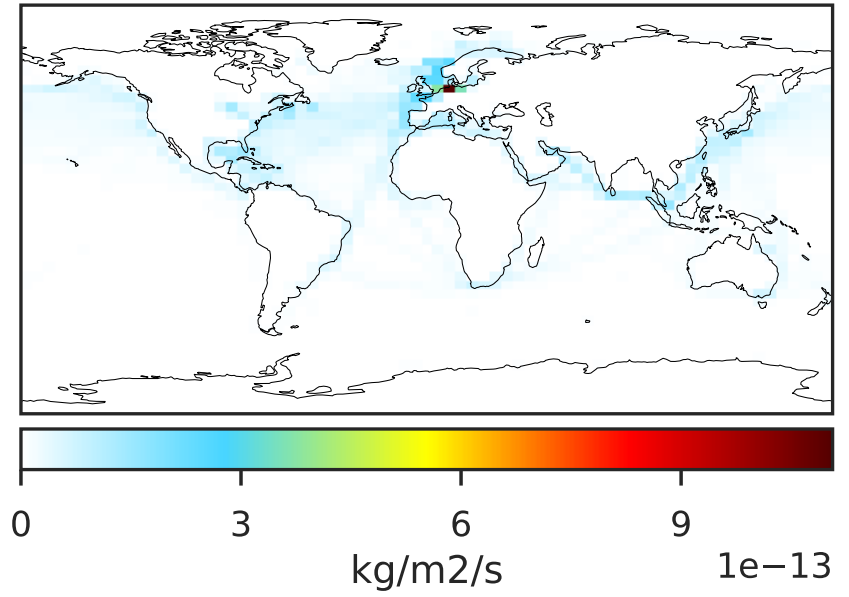unitless

Ratio
Dev/Ref, Fixed Range
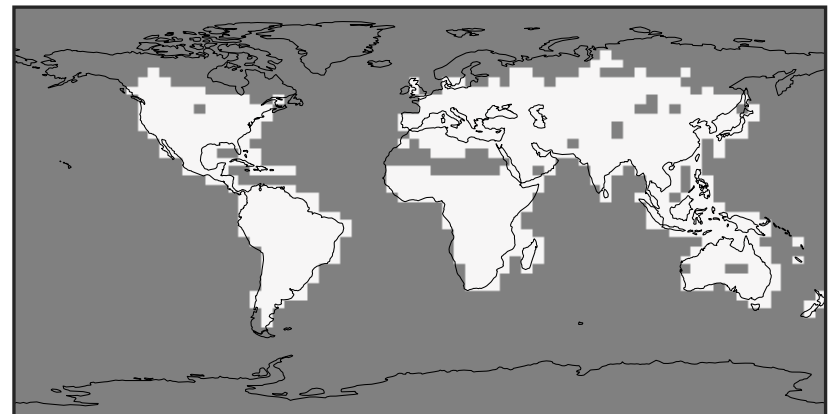
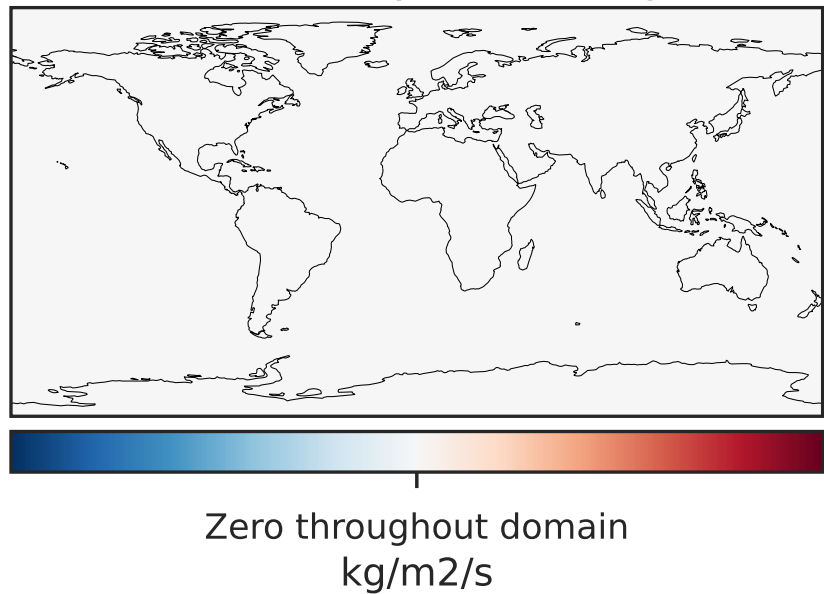
Ref and Dev equal throughout domain
unitless

EmisPRPE_Biogenic (Oct2019)

EmisPRPE_Ship (Oct2019)

EmisPRPE_Total (Oct2019)

EmisTOLU_Anthro (Oct2019)

EmisTOLU_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
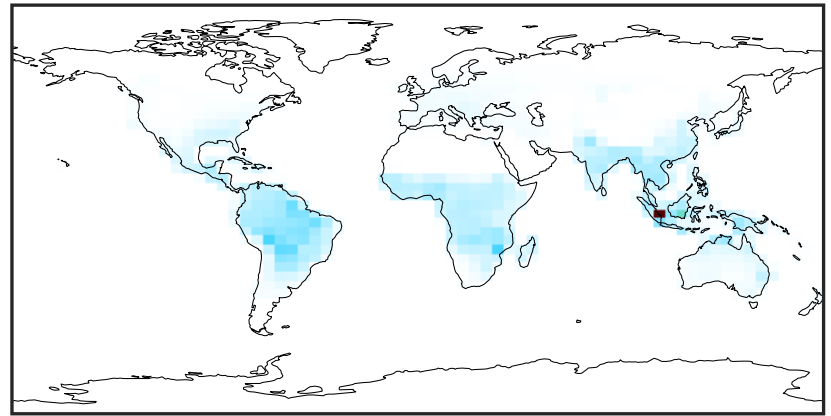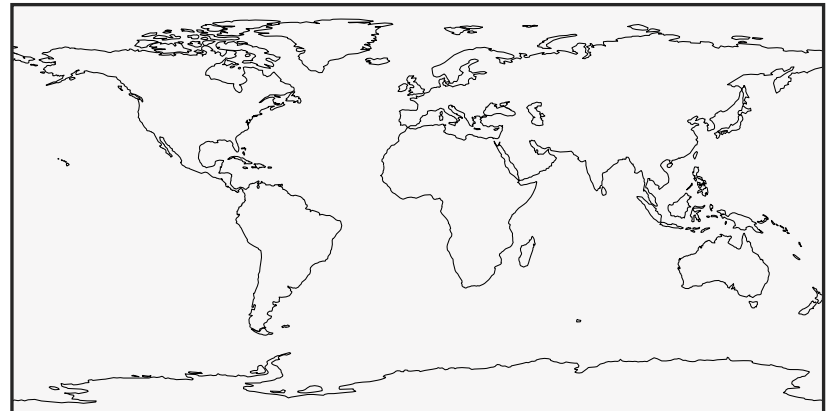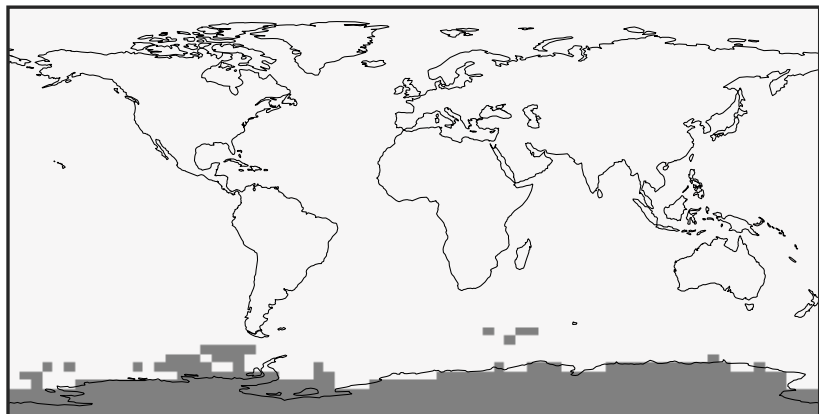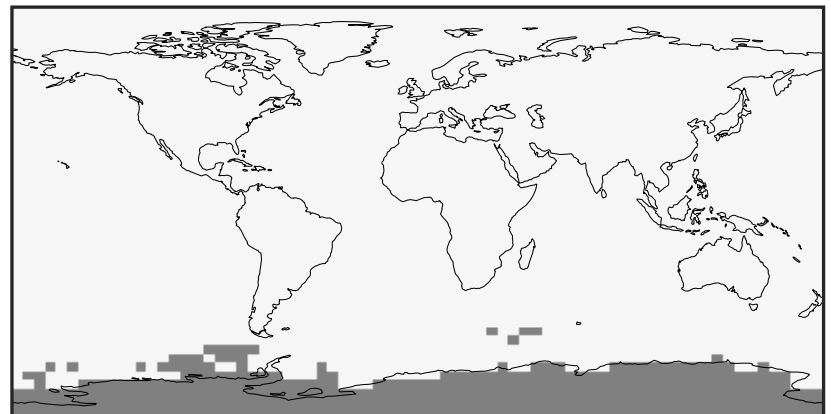4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

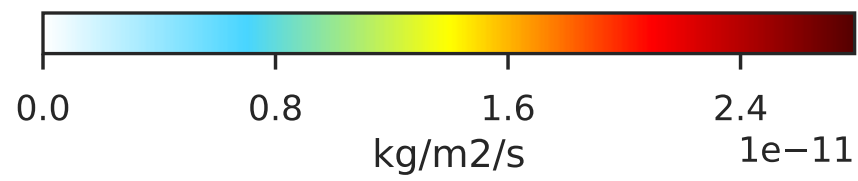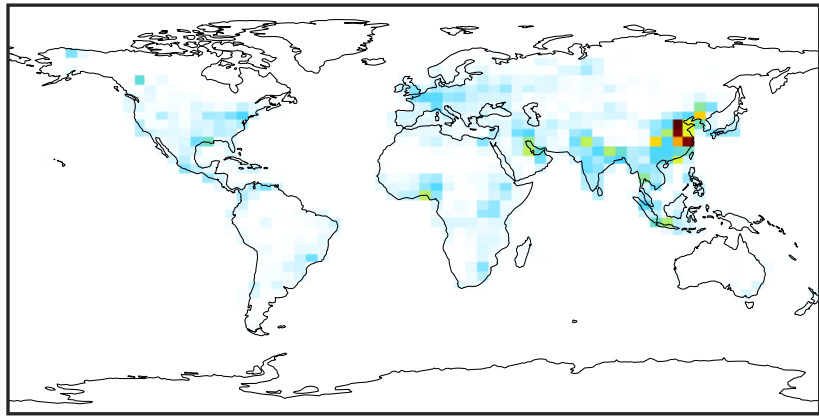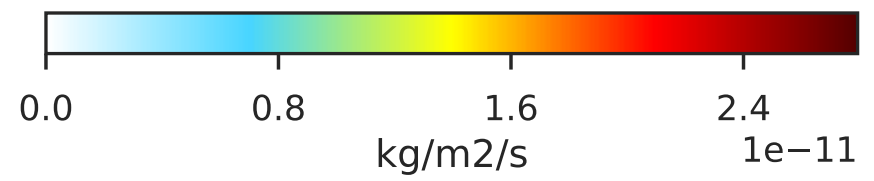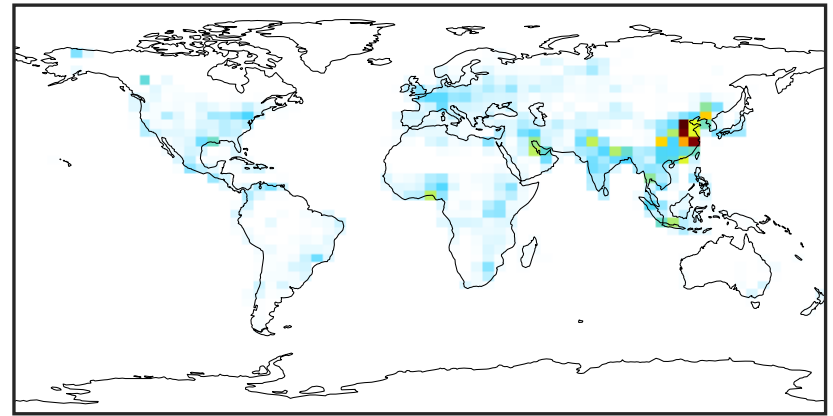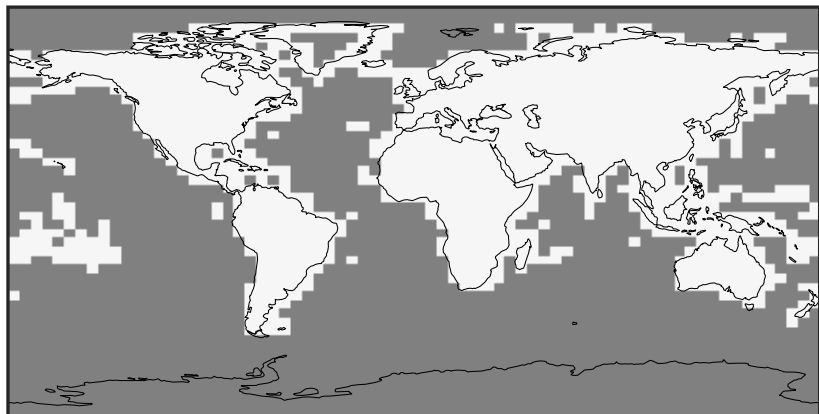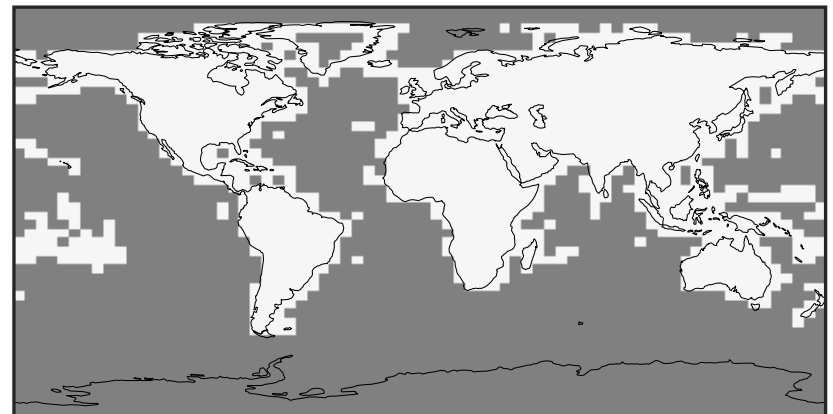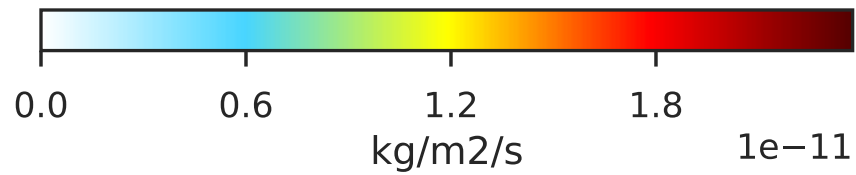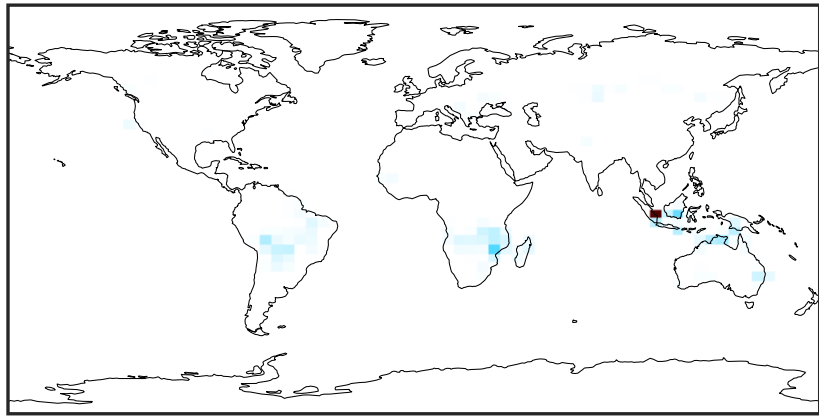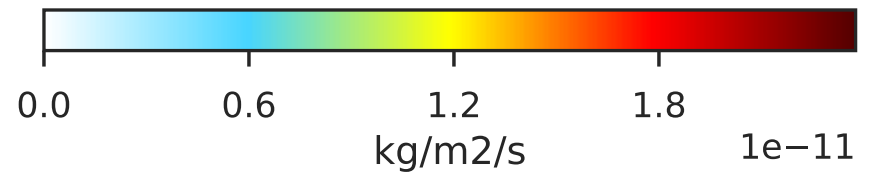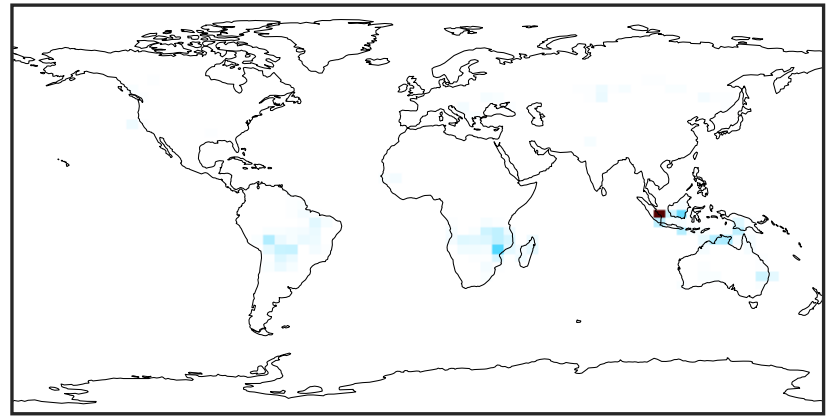Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisTOLU_Ship (Oct2019)

EmisTOLU_Total (Oct2019)

EmisXYLE_Anthro (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s   1e−11

kg/m2/s   1e−11

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless

EmisXYLE_BioBurn (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

0   3   6   9
kg/m2/s   1e−12

14.3.0-rc.0 (Dev)
4.0x5.0

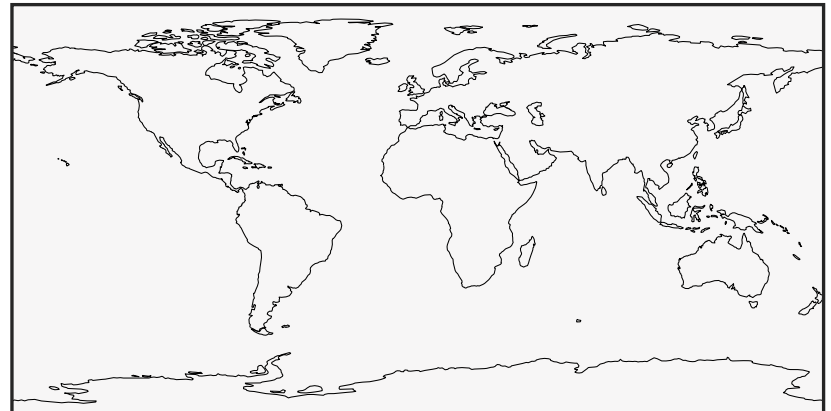0   3   6   9
kg/m2/s   1e−12
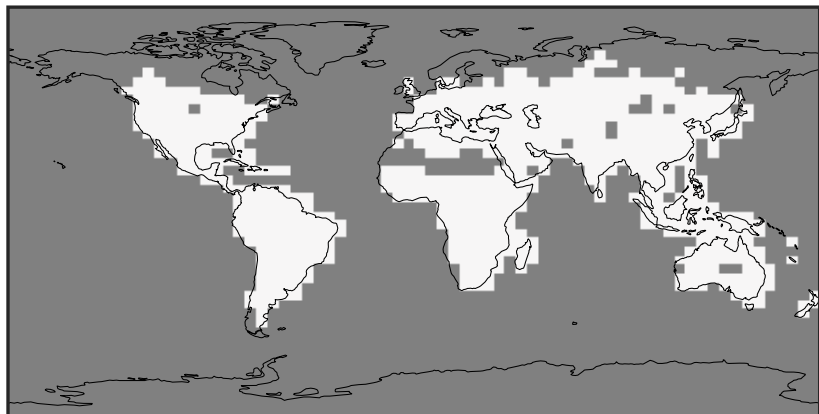
Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
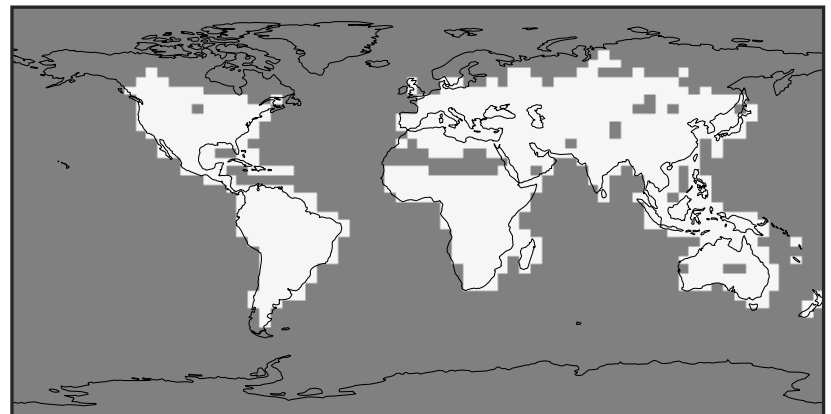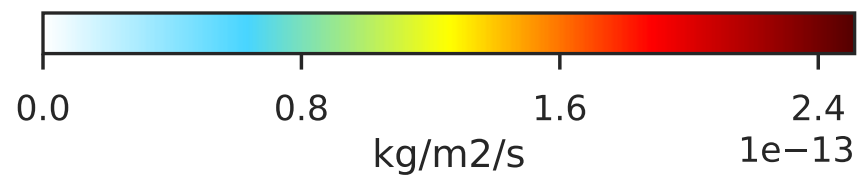### Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range
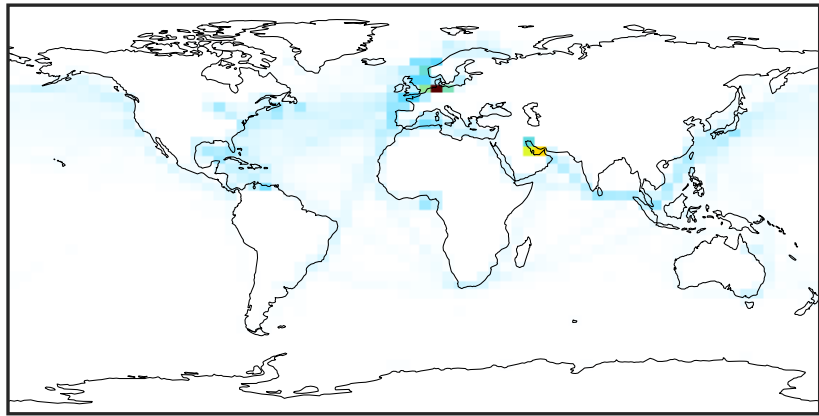

Ref and Dev equal throughout domain
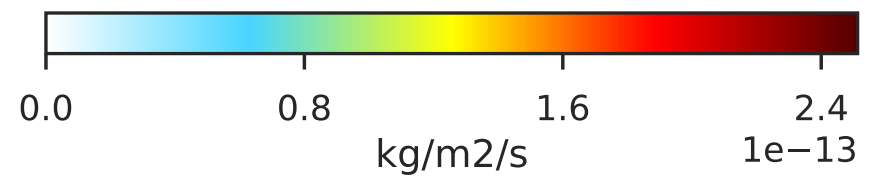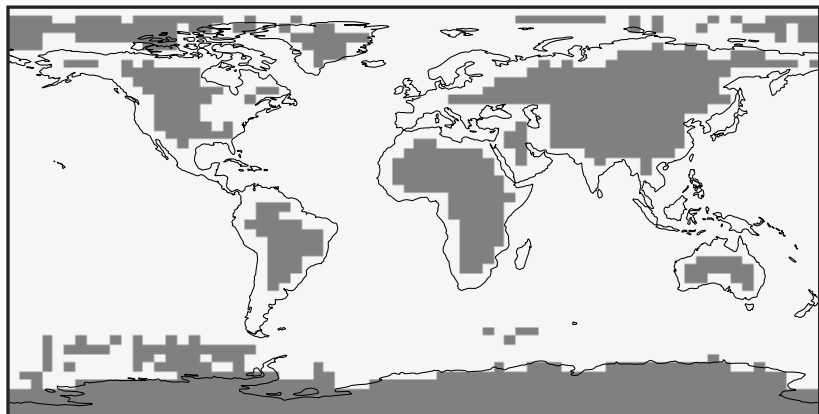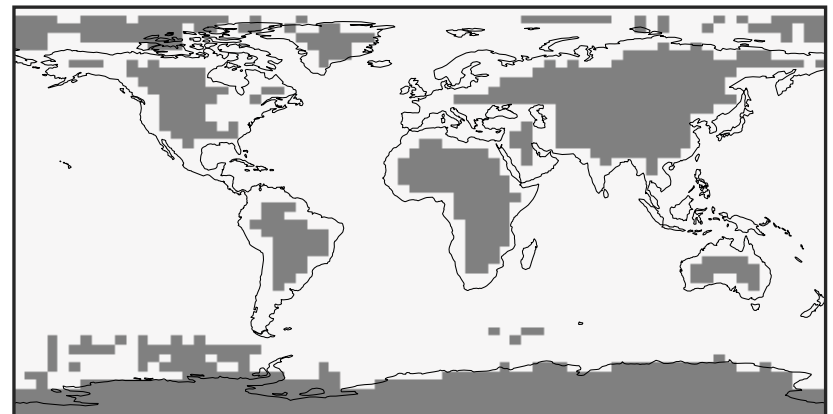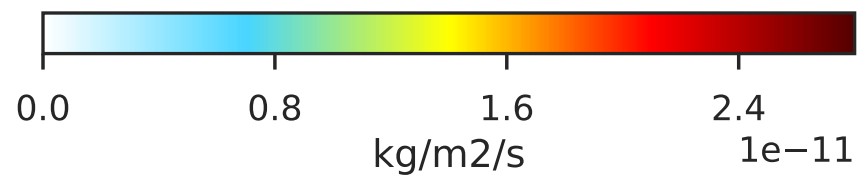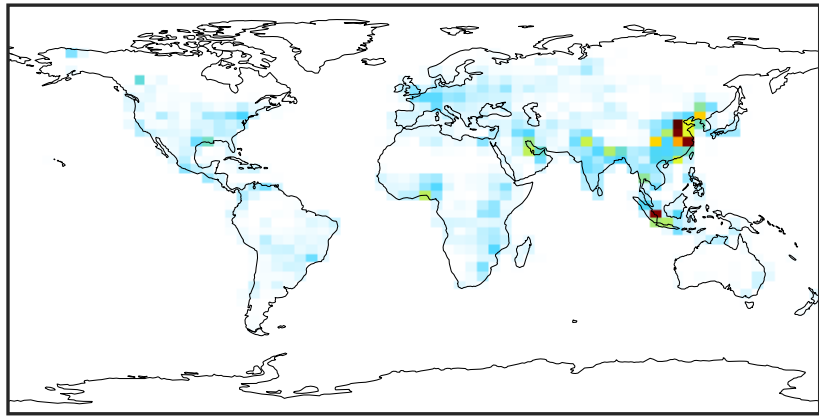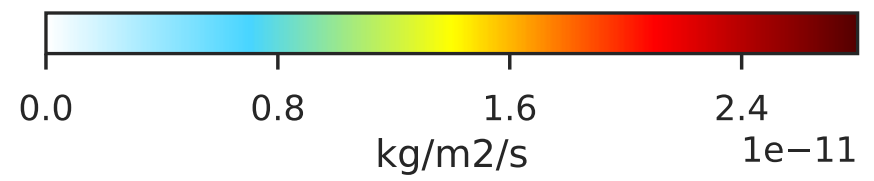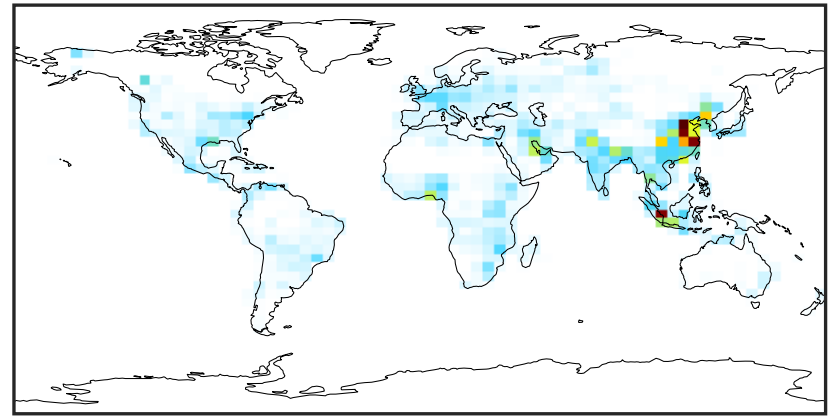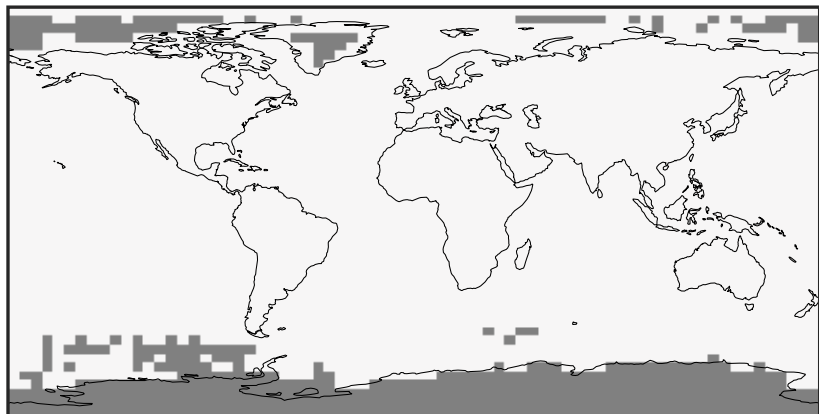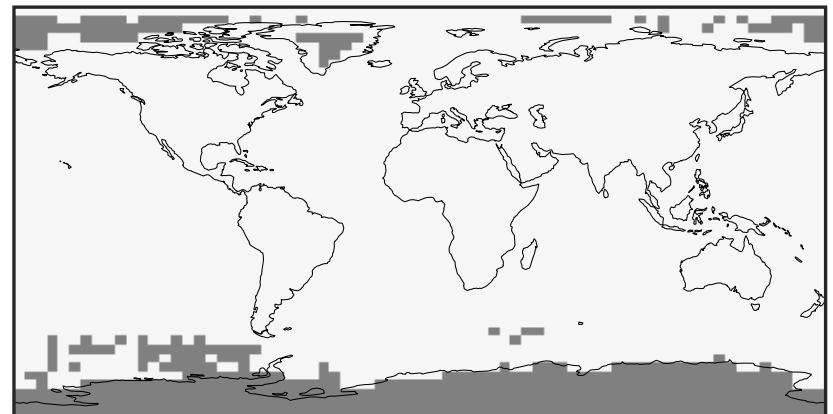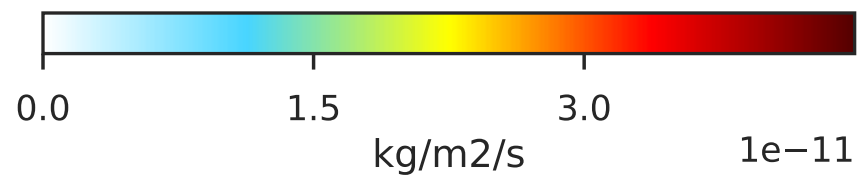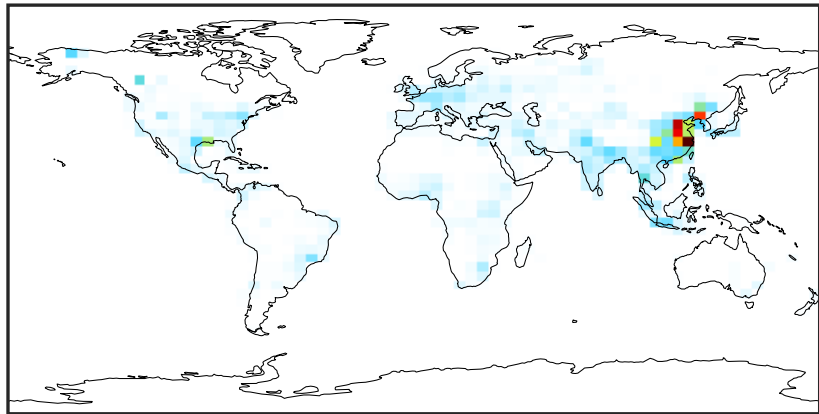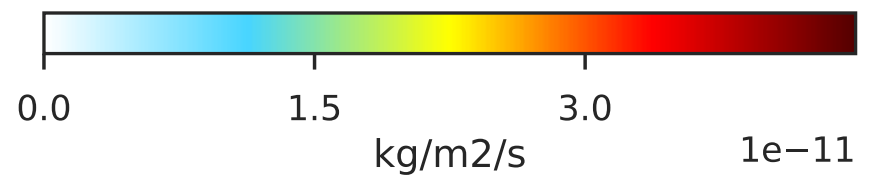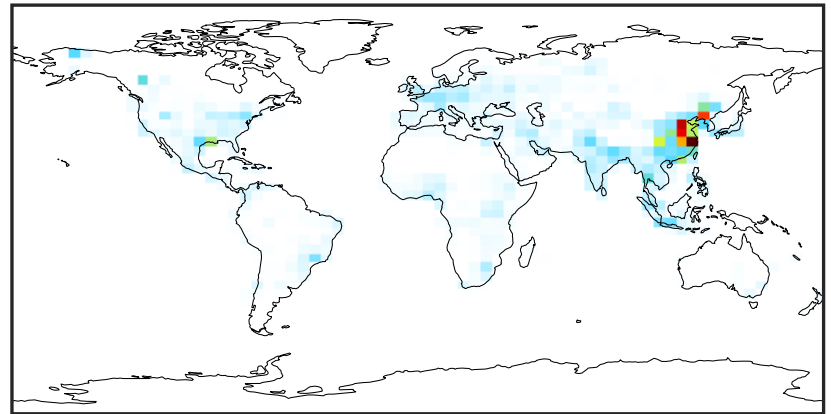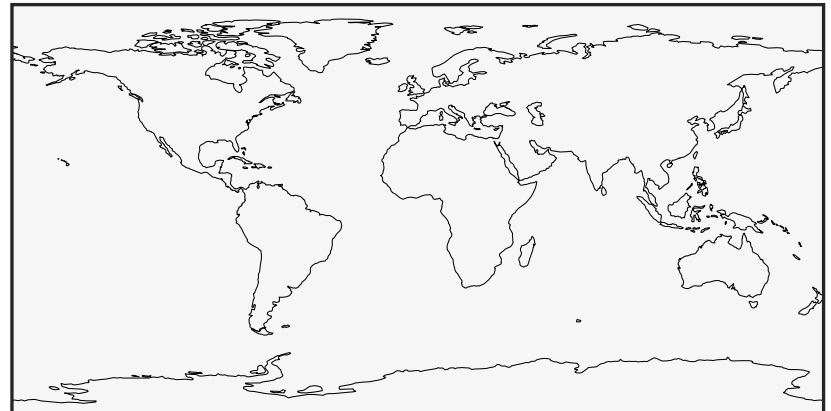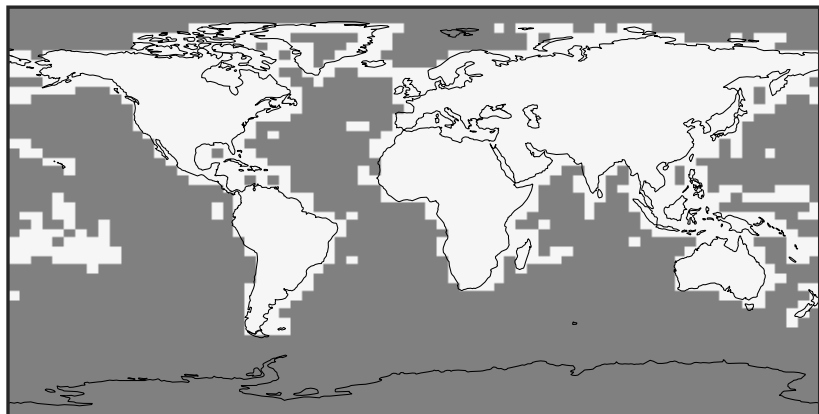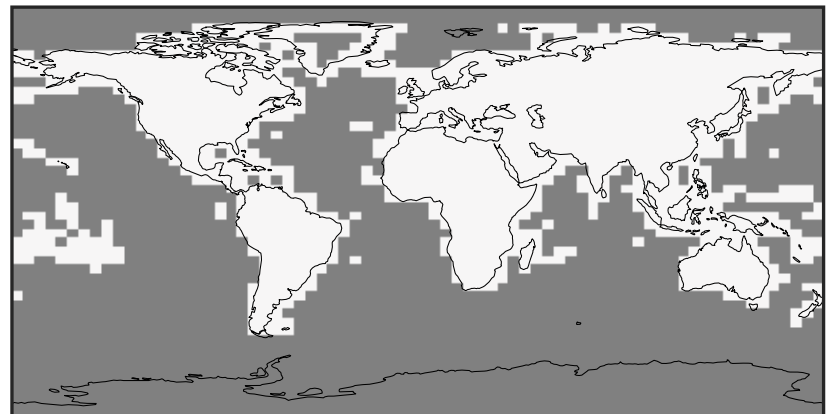unitless

Ratio
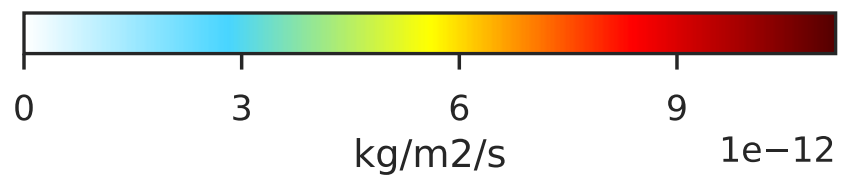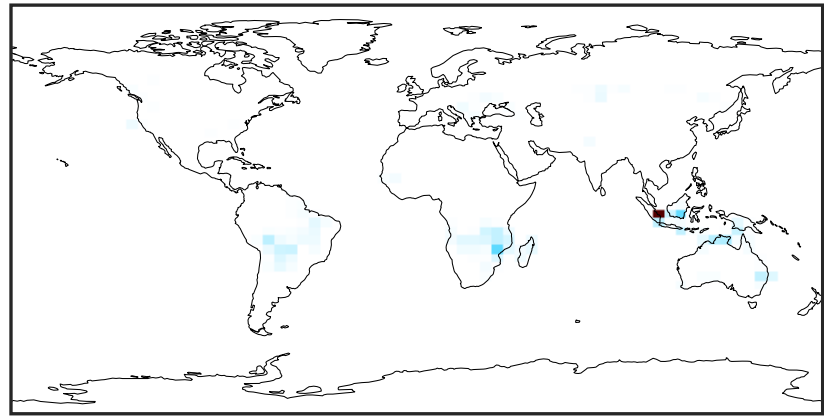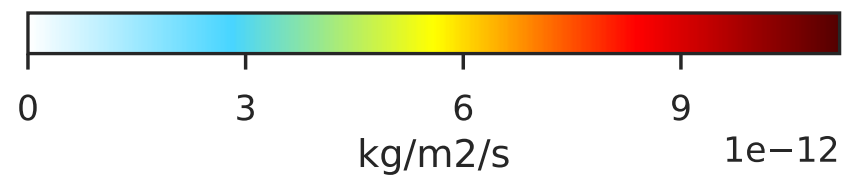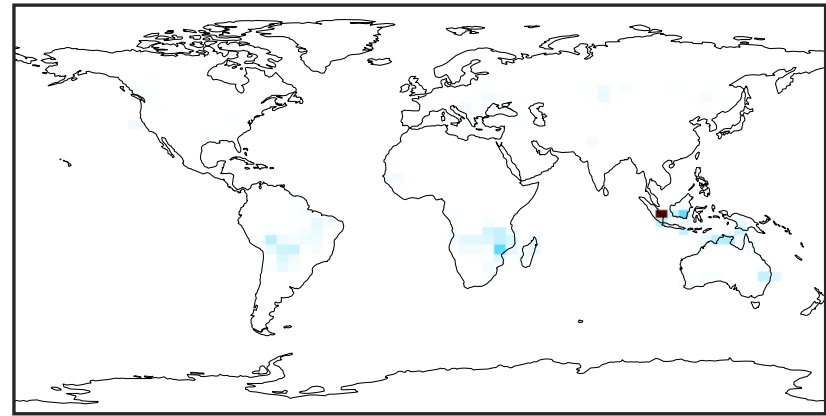### Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

EmisXYLE_Ship (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0

kg/m2/s

kg/m2/s

Difference
Dev - Ref, Dynamic Range

Difference
Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Zero throughout domain
kg/m2/s

Ratio
Dev/Ref, Dynamic Range

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless

Ref and Dev equal throughout domain
unitless
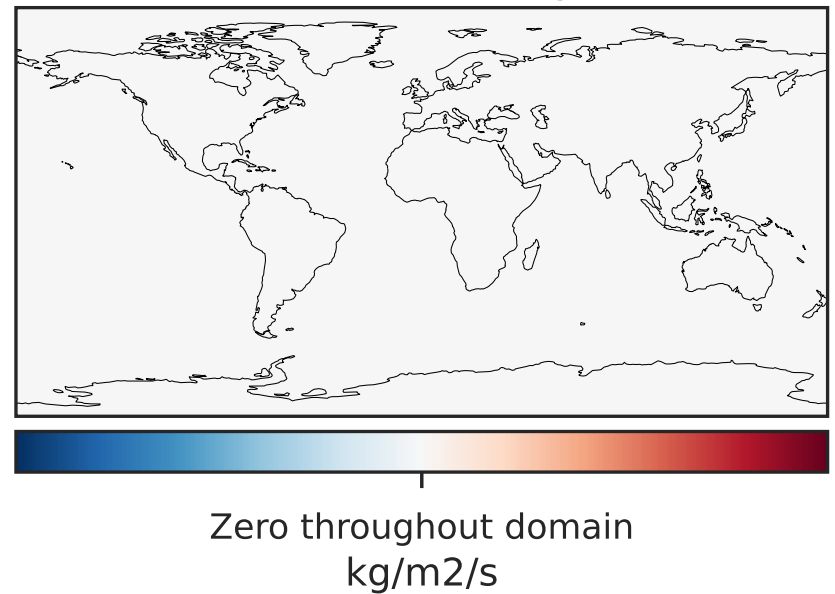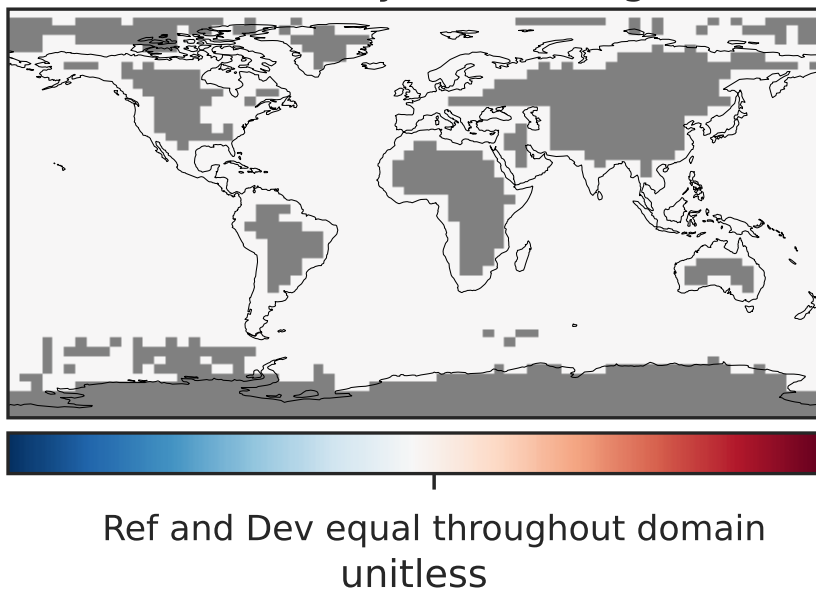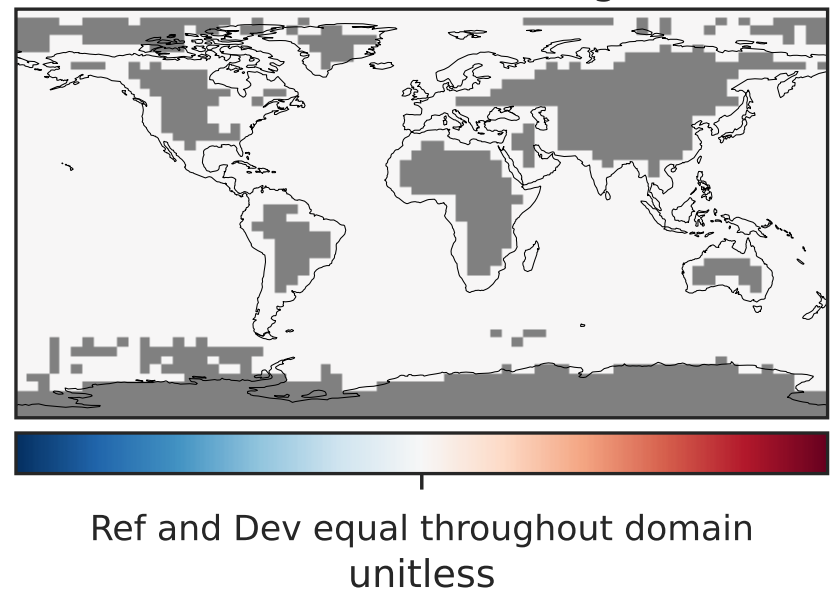
EmisXYLE_Total (Oct2019)

14.2.0-rc.2 (Ref)
4.0x5.0

14.3.0-rc.0 (Dev)
4.0x5.0
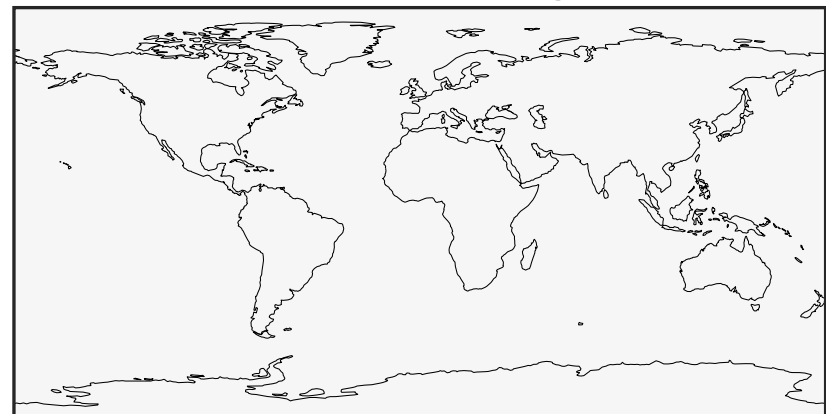
kg/m2/s

1e−11

kg/m2/s
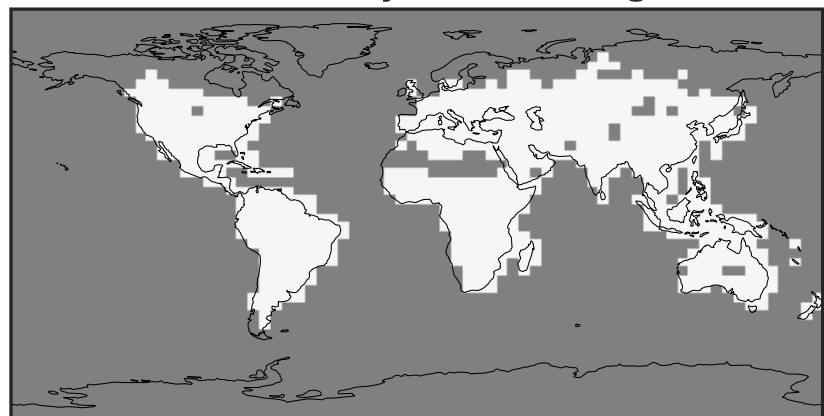
1e−11

Difference
Dev - Ref, Dynamic Range

Zero throughout domain
kg/m2/s

Difference
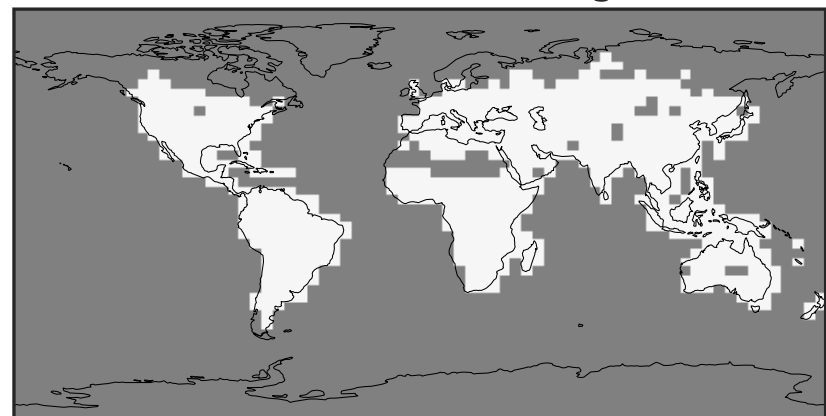## Dev - Ref, Restricted Range [5%,95%]

Zero throughout domain
kg/m2/s

Ratio
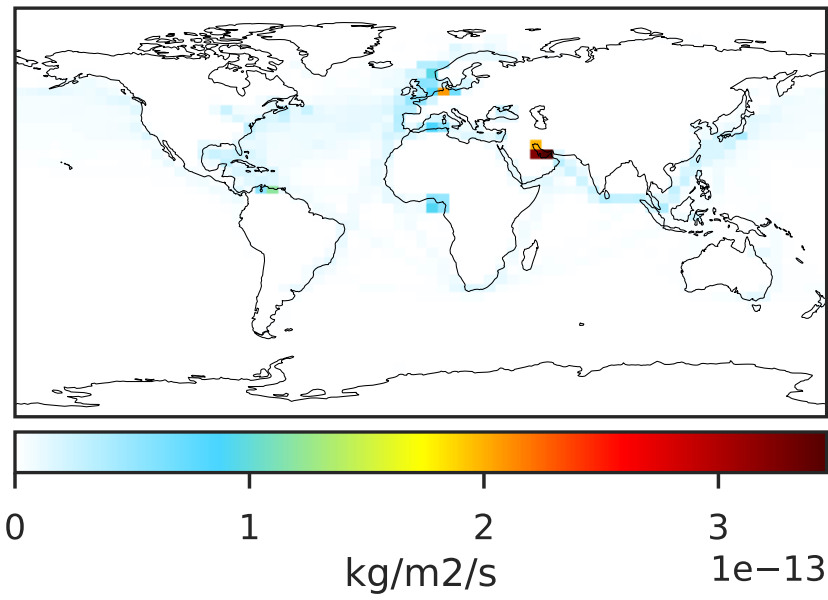## Dev/Ref, Dynamic Range

Ref and Dev equal throughout domain
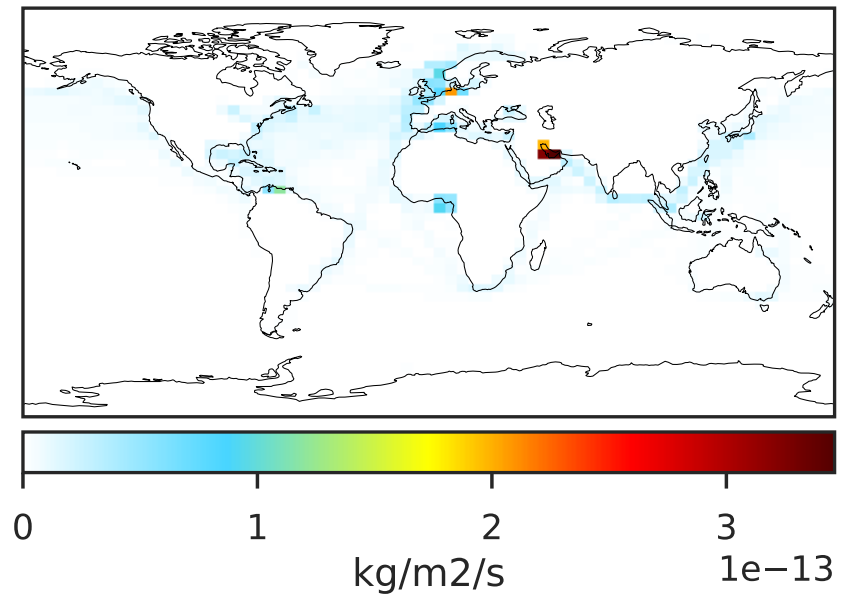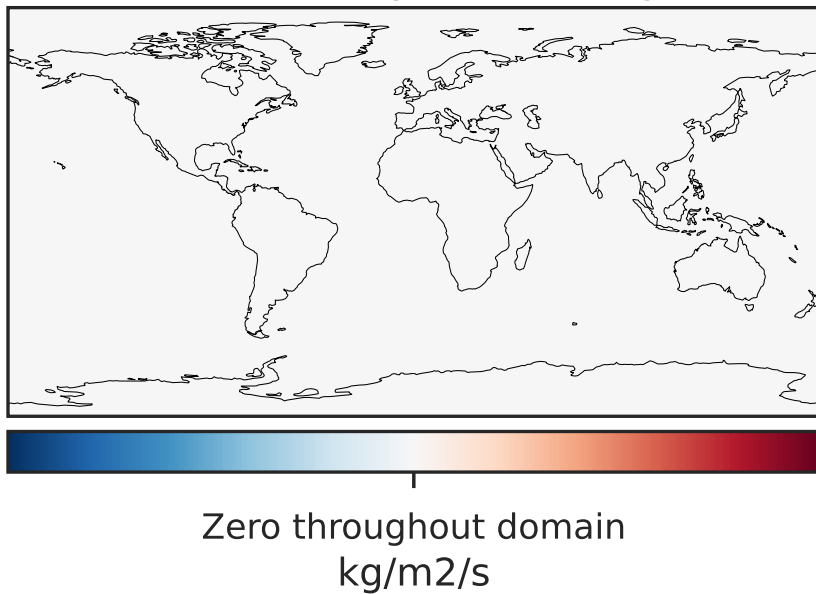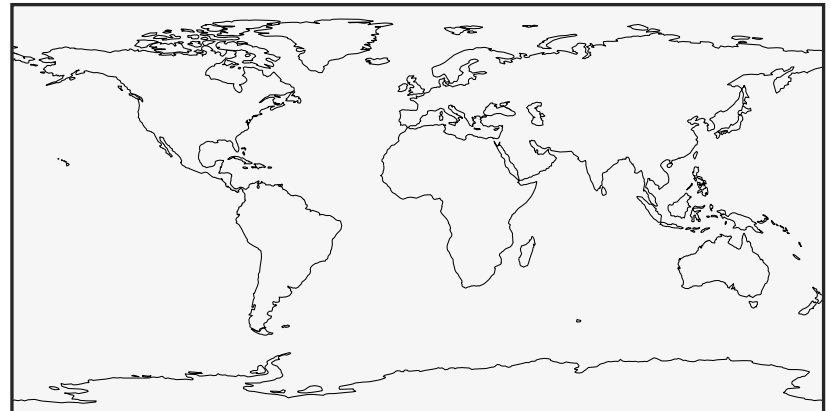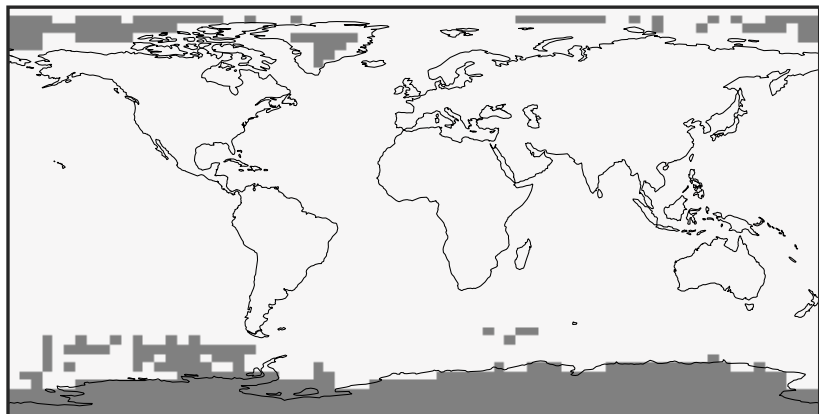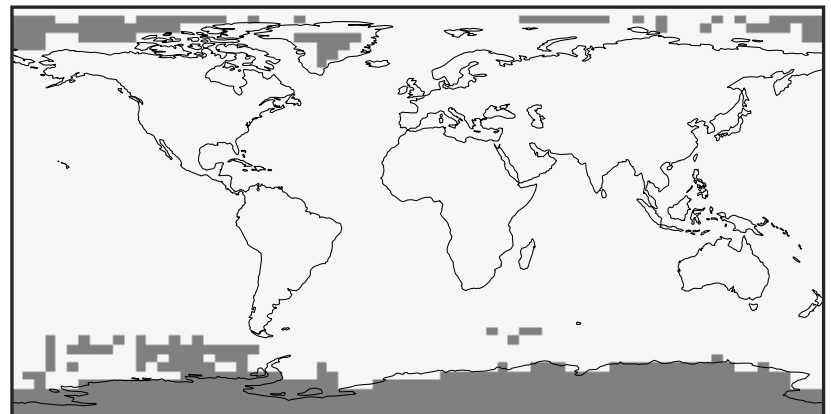unitless

Ratio
Dev/Ref, Fixed Range

Ref and Dev equal throughout domain
unitless