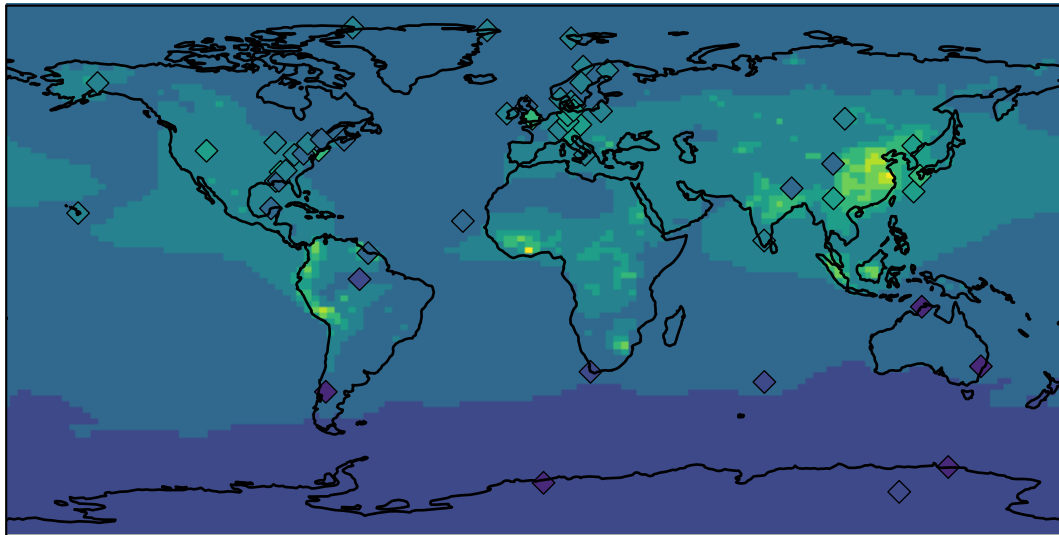


Reference Model Version: Surface TGM



Terrestrial $R^2 = 0.441$

Mean Mod. = $1.36 \pm 0.13 \text{ ng m}^{-3}$

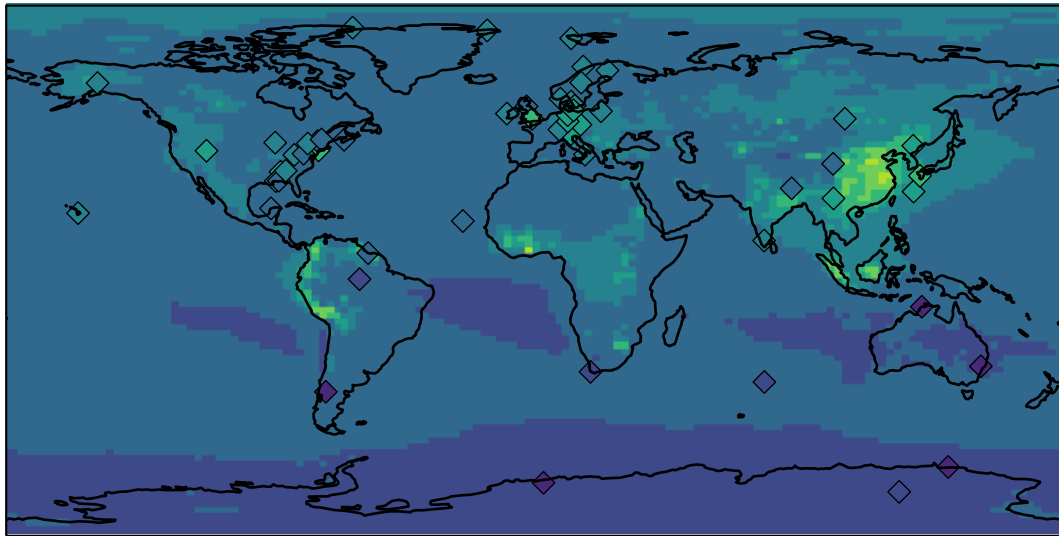
Mean Obs. = $1.39 \pm 0.26 \text{ ng m}^{-3}$



0.75 0.95 1.15 1.35 1.55 1.75 2.30 2.90 3.50

Not Linear ng m^{-3}

New Model Version: Surface TGM



Terrestrial $R^2 = 0.464$

Mean Mod. = $1.32 \pm 0.12 \text{ ng m}^{-3}$

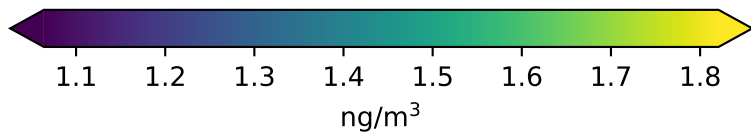
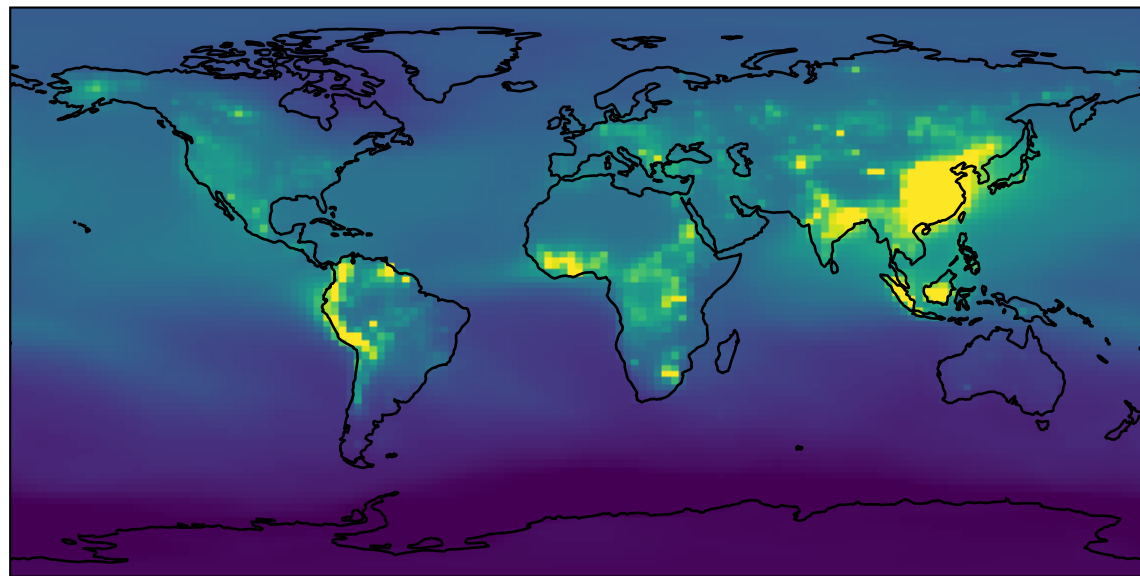
Mean Obs. = $1.39 \pm 0.26 \text{ ng m}^{-3}$



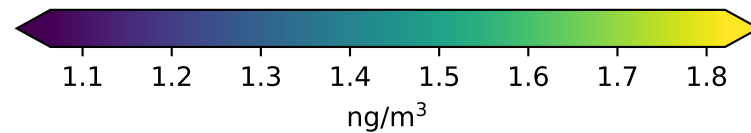
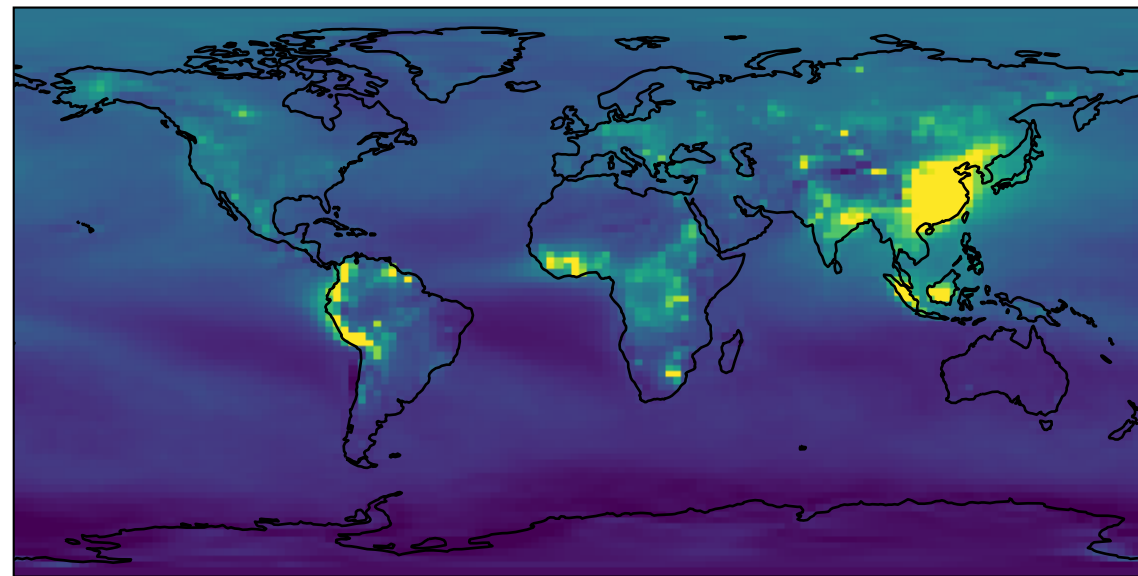
0.75 0.95 1.15 1.35 1.55 1.75 2.30 2.90 3.50

Not Linear ng m^{-3}

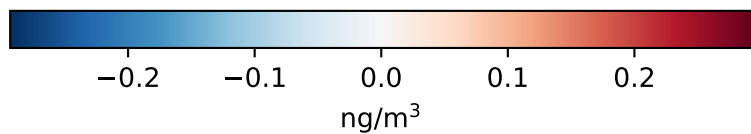
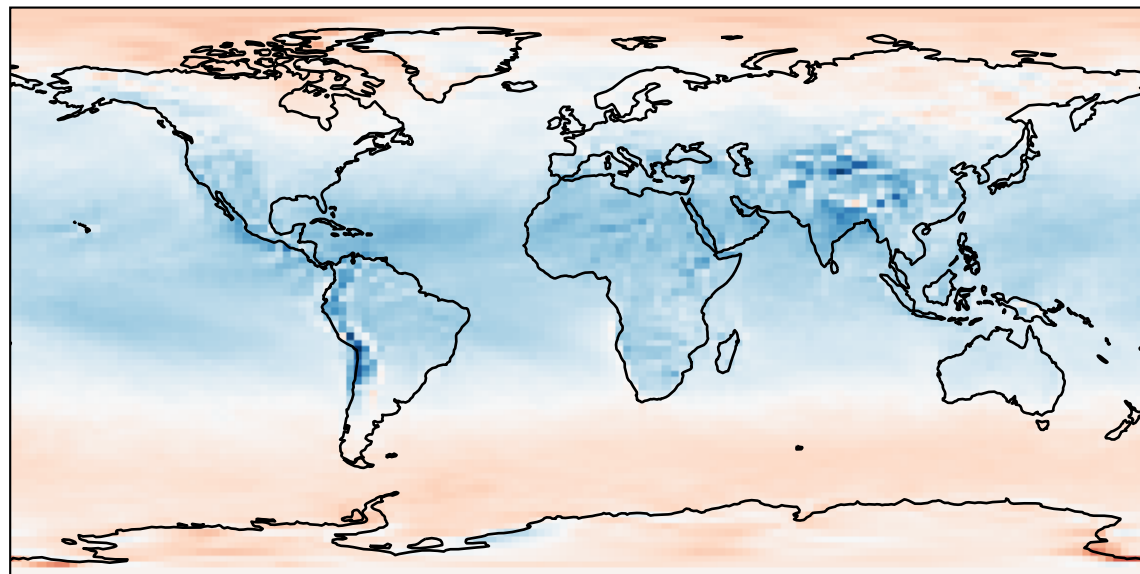
Reference Model Version: Surface TGM



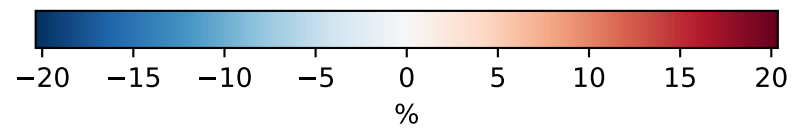
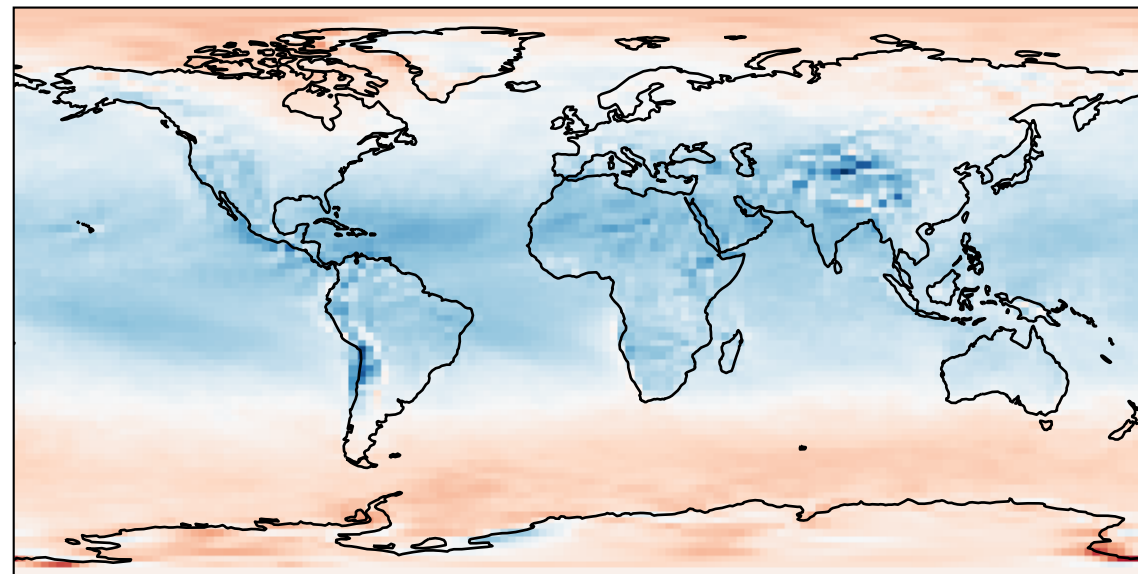
New Model Version: Surface TGM



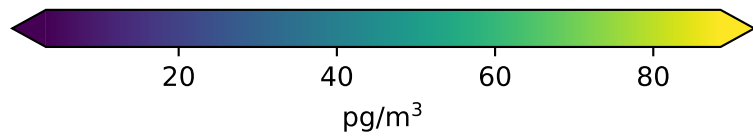
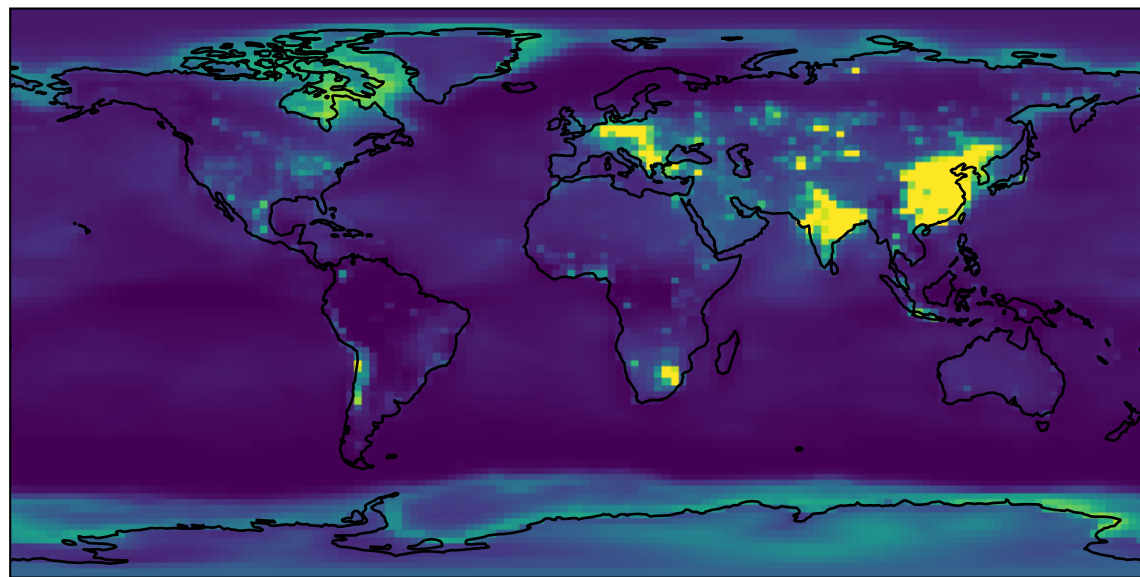
Absolute Difference



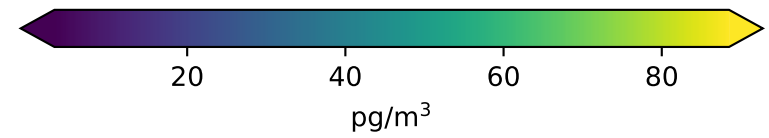
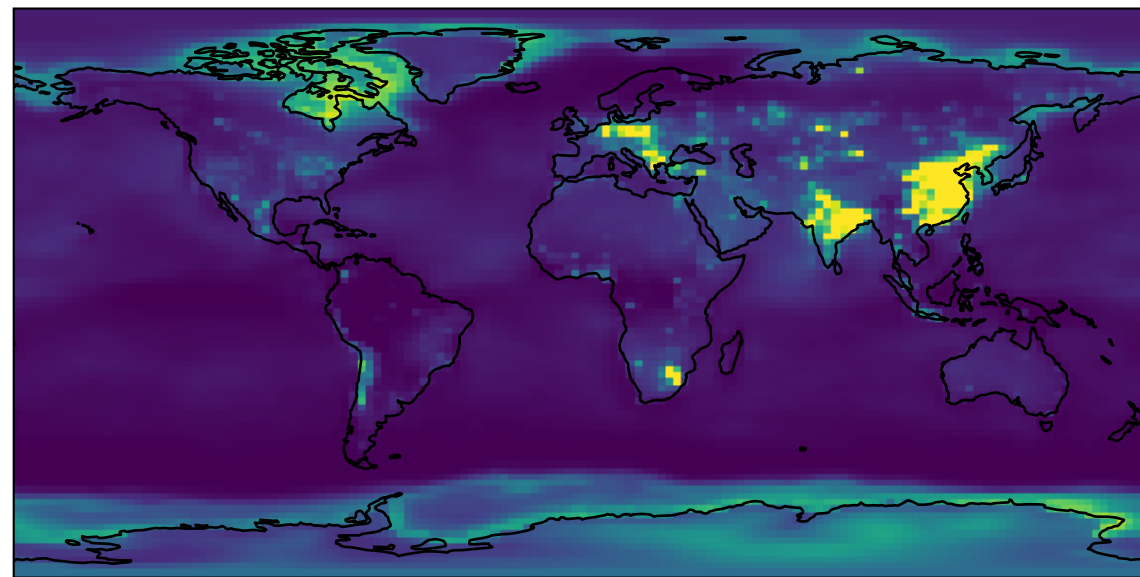
Percent Difference (%)



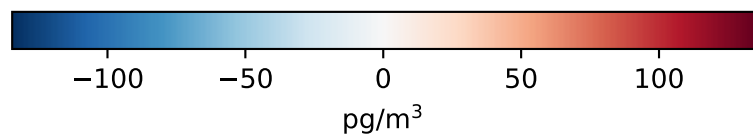
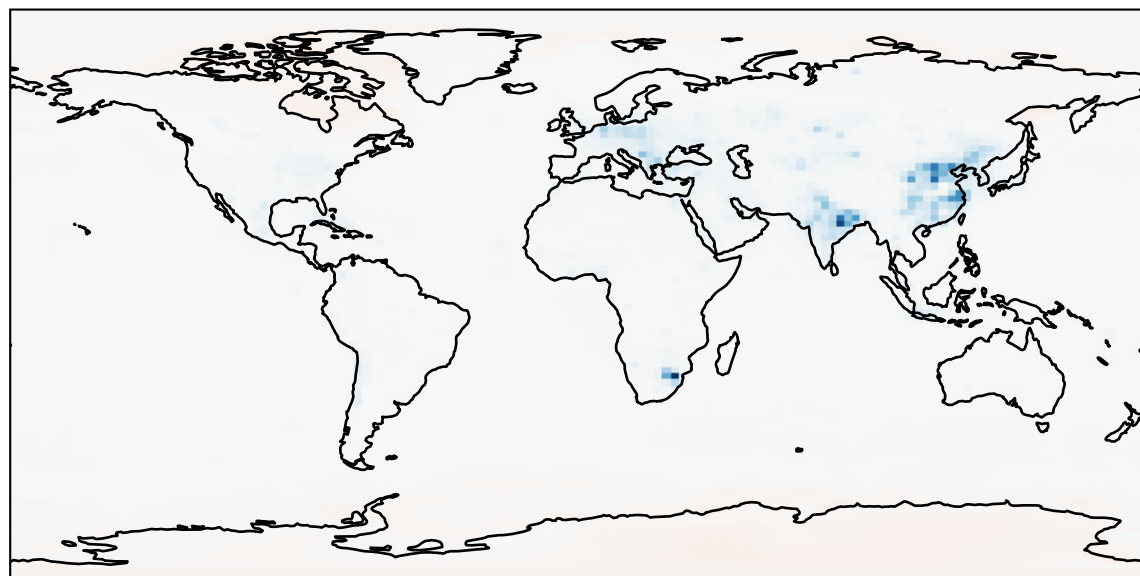
Reference Model Version: Surface Hg(II)+Hg(P)



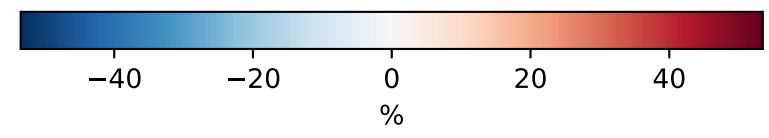
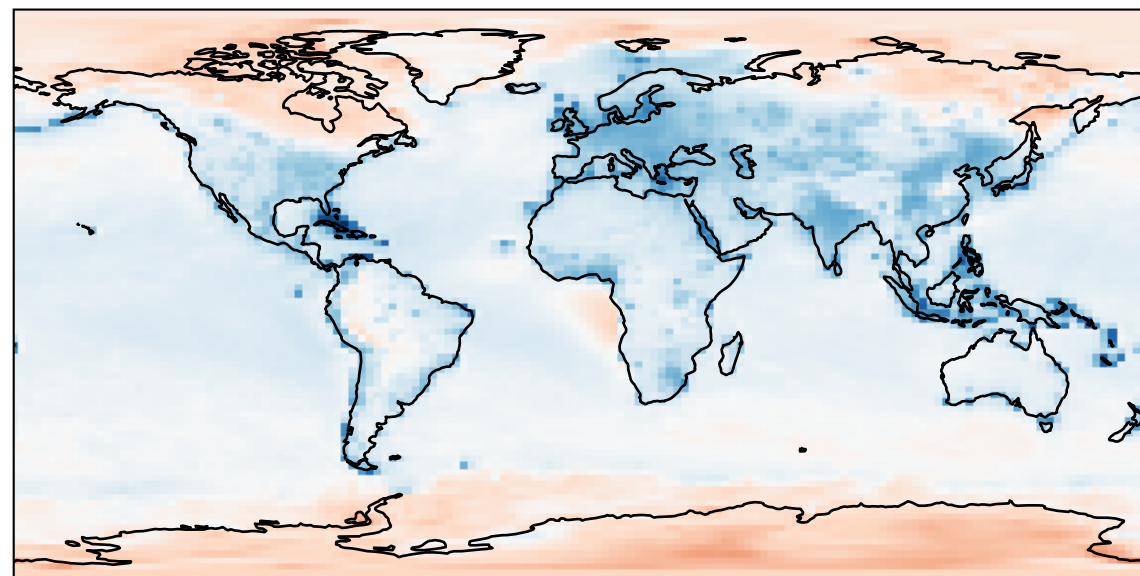
New Model Version: Surface Hg(II)+Hg(P)



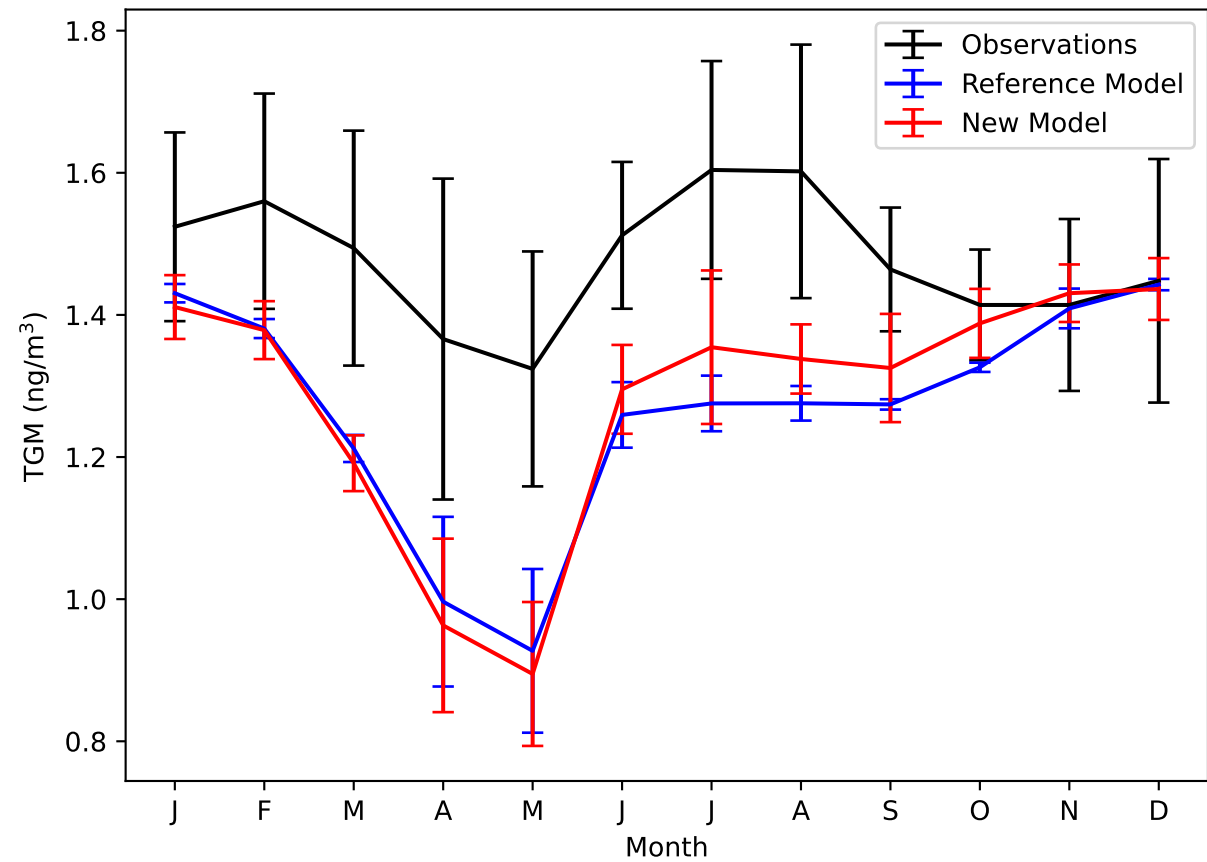
Absolute Difference



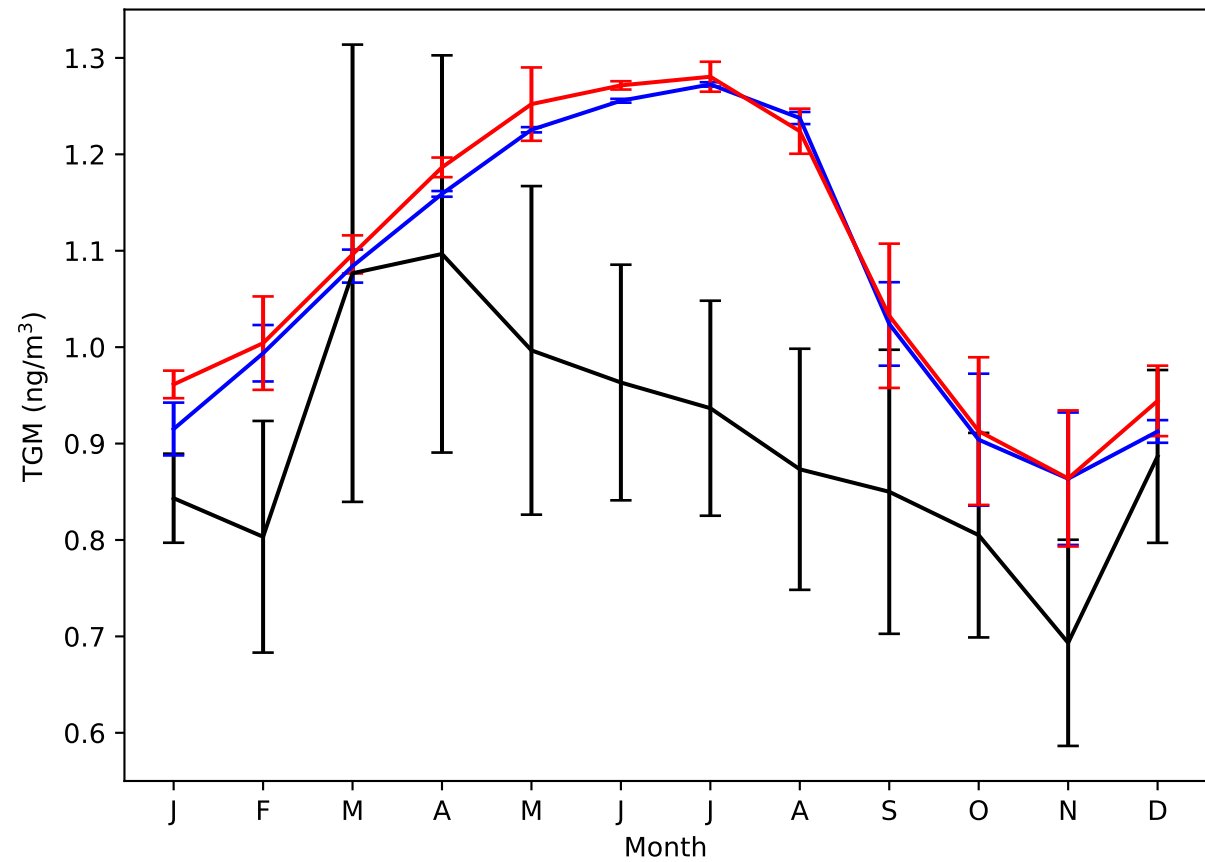
Percent Difference (%)



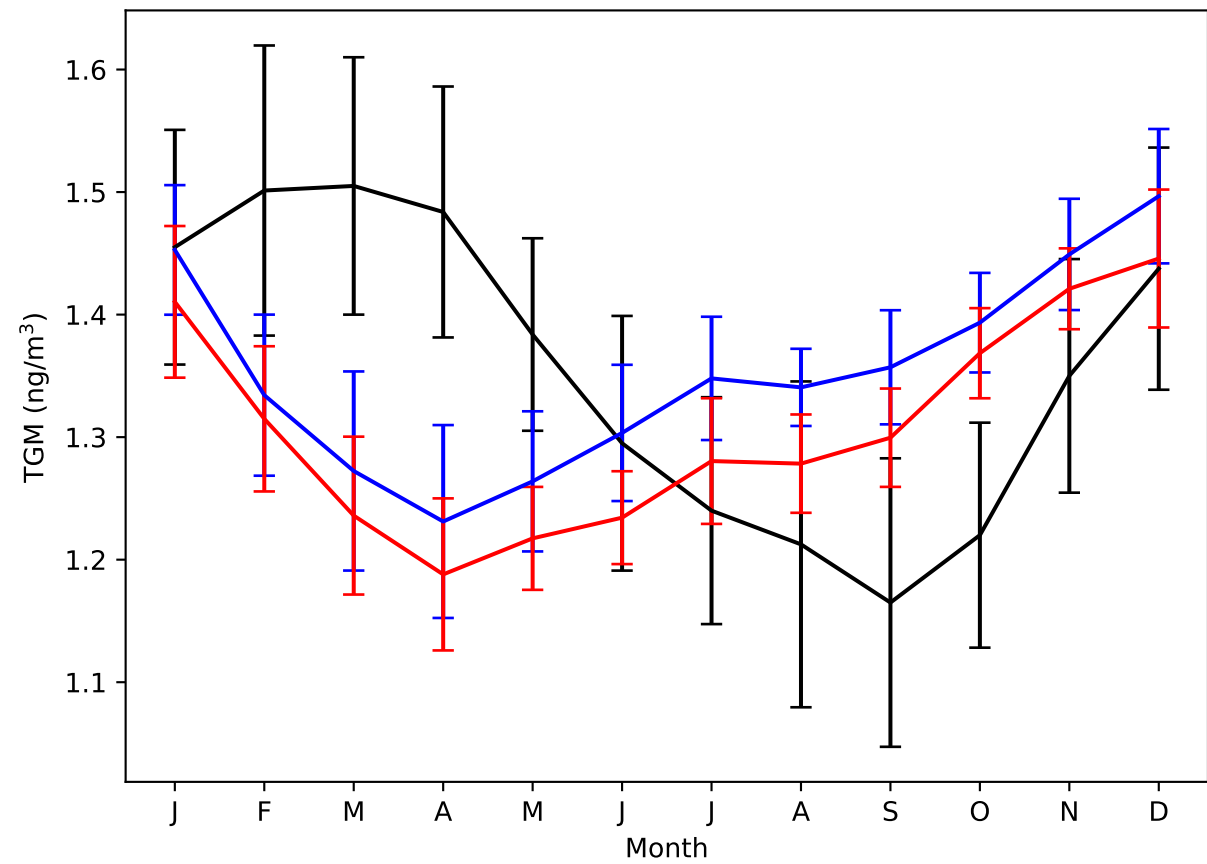
Arctic



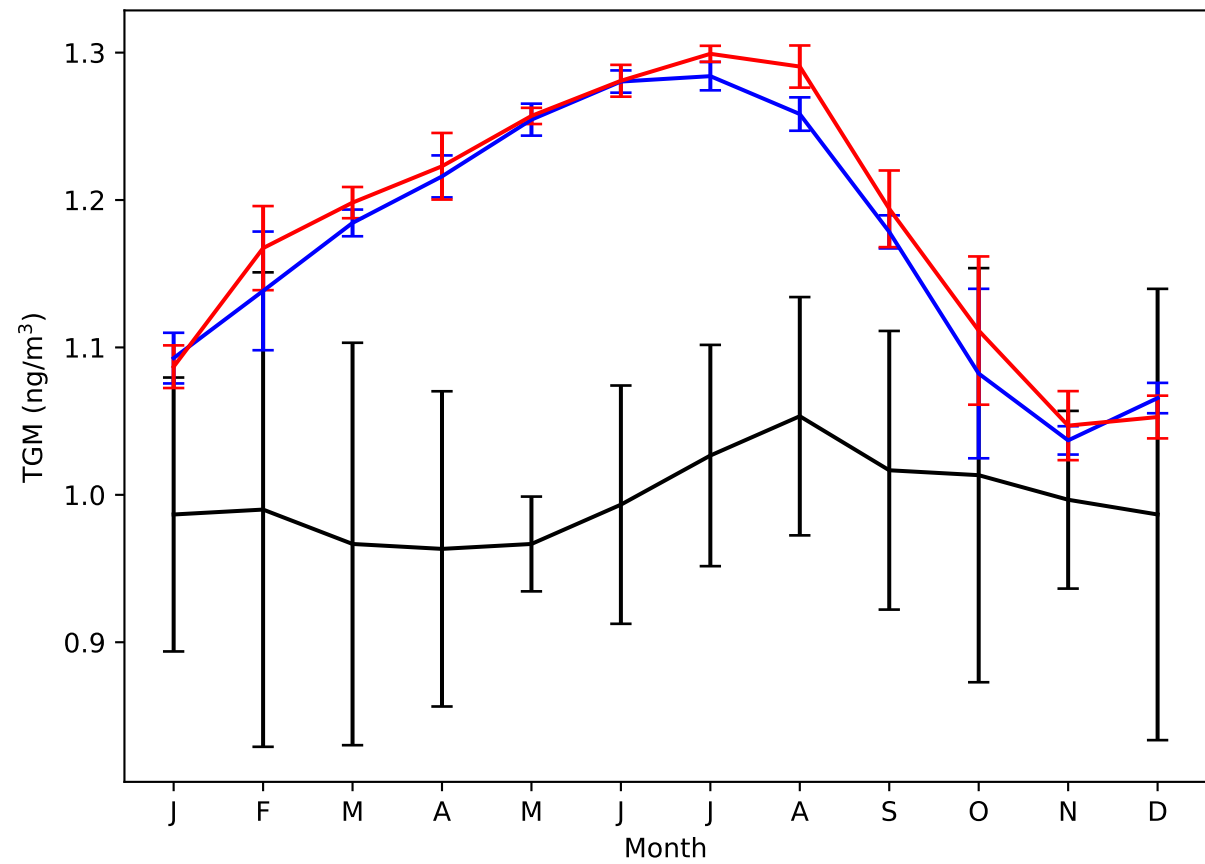
Antarctic

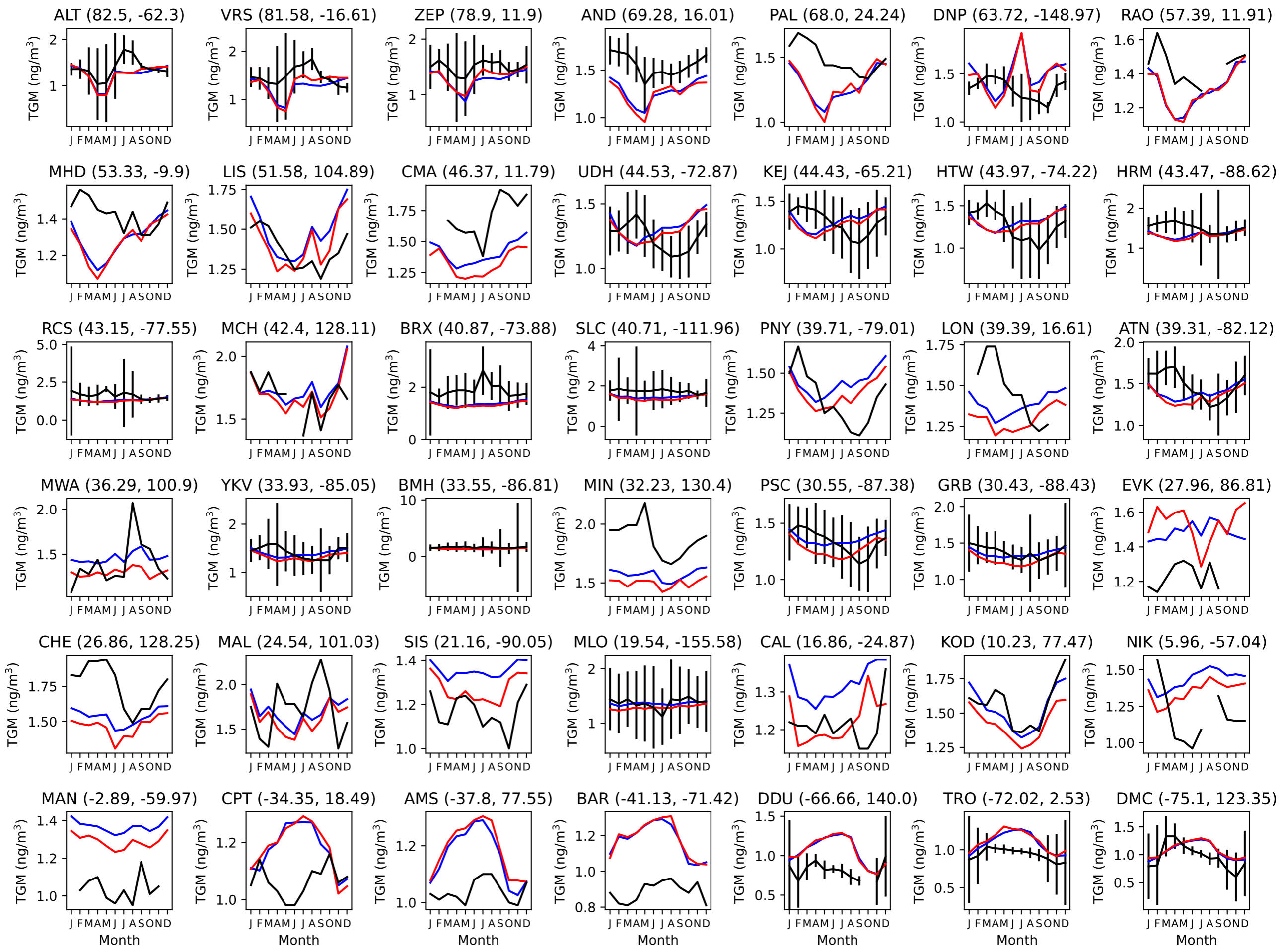
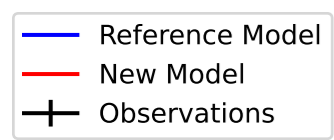


Northern Mid Latitudes

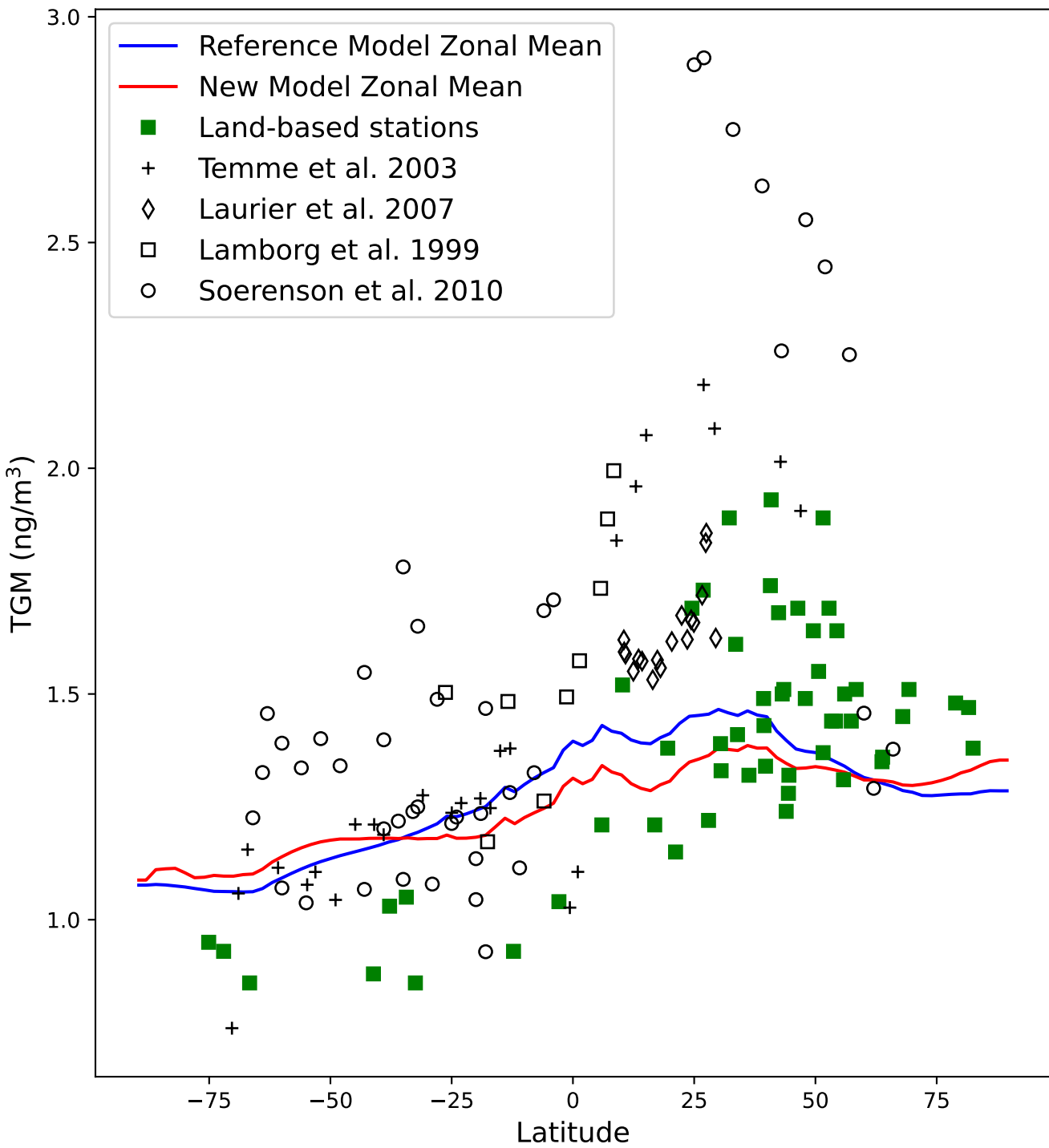


Southern Mid Latitudes

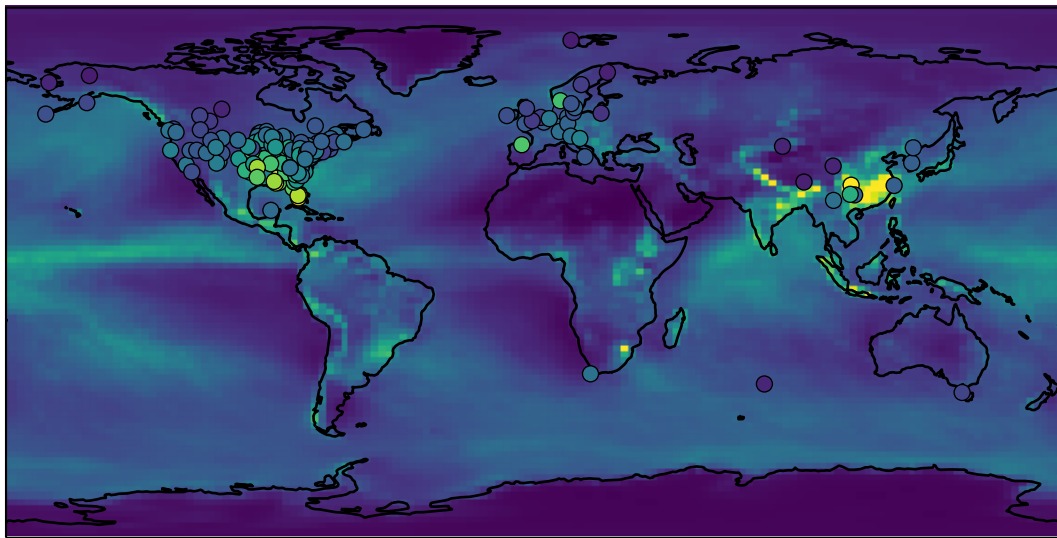




Surface TGM



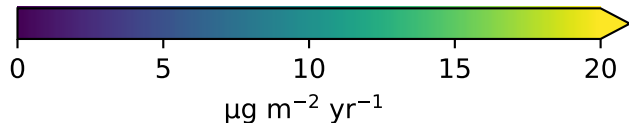
Wet Deposition, Reference Model (2015), obs from Shah21



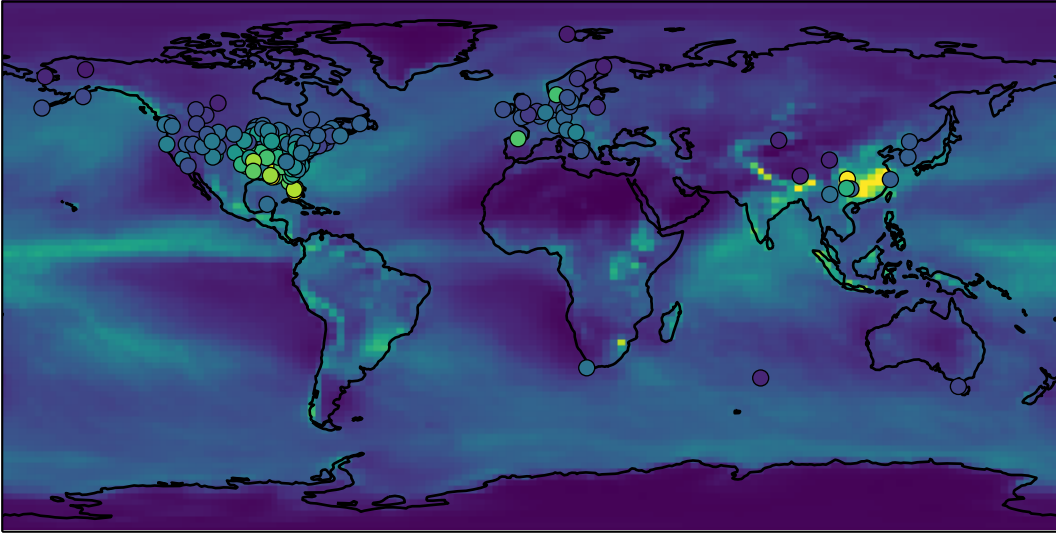
$$R^2 = 0.356$$

$$\text{Mean Mod.} = 6.7 \pm 2.7 \mu\text{g m}^{-2} \text{yr}^{-1}$$

$$\text{Mean Obs.} = 8.3 \pm 4.4 \mu\text{g m}^{-2} \text{yr}^{-1}$$



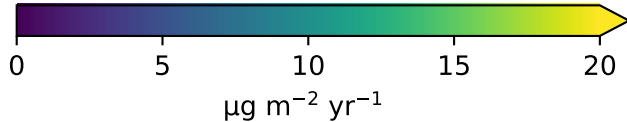
Wet Deposition, New Model (2015), obs from Shah21



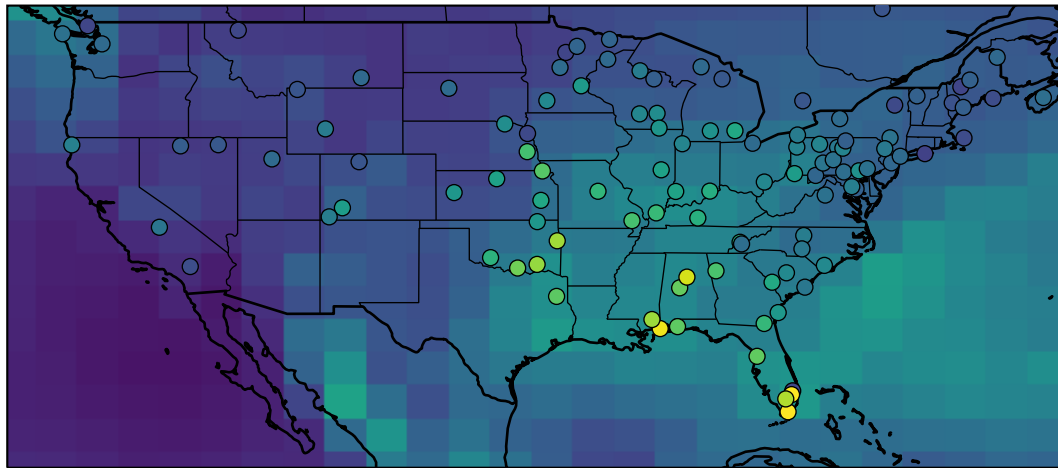
$R^2 = 0.368$

Mean Mod. = $6.2 \pm 2.3 \mu\text{g m}^{-2} \text{yr}^{-1}$

Mean Obs. = $8.3 \pm 4.4 \mu\text{g m}^{-2} \text{yr}^{-1}$



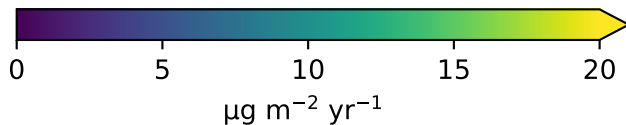
Hg Wet Deposition, Reference Model (2015), MDN (2015)



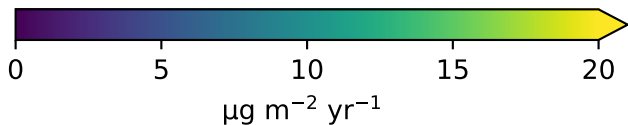
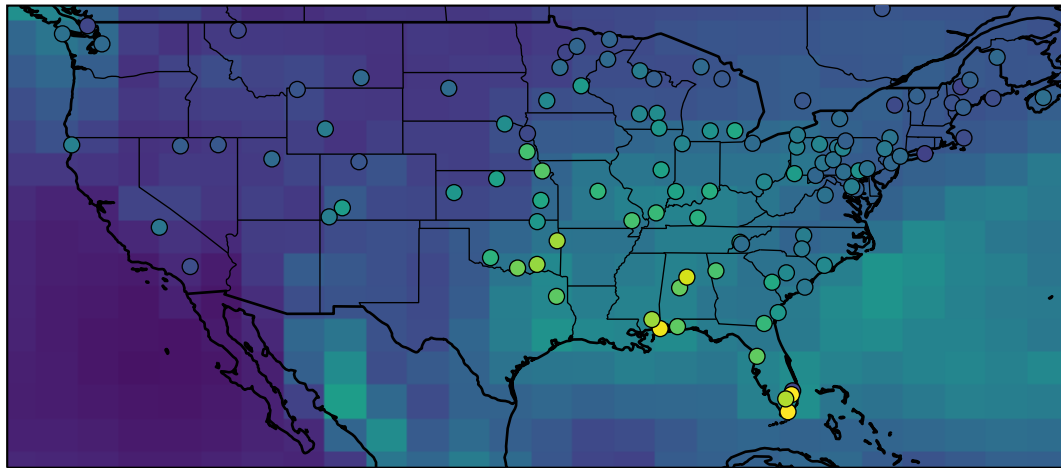
$$R^2 = 0.509$$

$$\text{Mean Mod.} = 6.6 \pm 2.1 \mu\text{g m}^{-2} \text{ yr}^{-1}$$

$$\text{Mean Obs.} = 8.9 \pm 4.1 \mu\text{g m}^{-2} \text{ yr}^{-1}$$



Hg Wet Deposition, New Model (2015), MDN (2015)



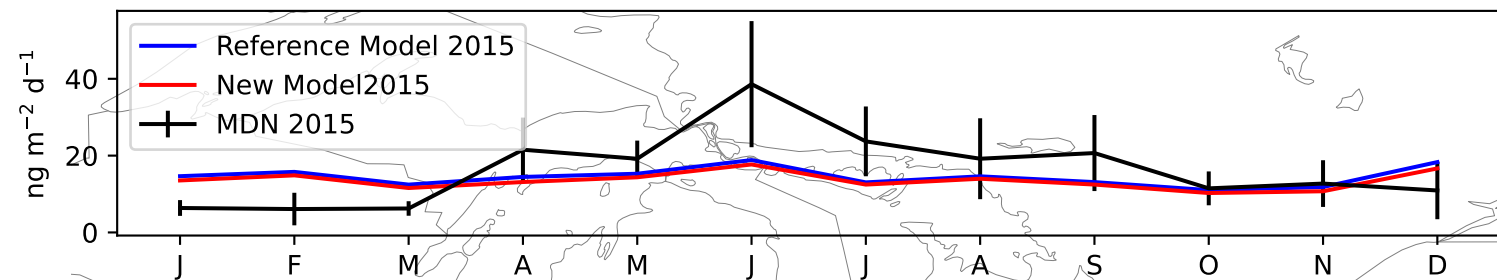
$$R^2 = 0.507$$

$$\text{Mean Mod.} = 6.1 \pm 1.9 \mu\text{g m}^{-2} \text{ yr}^{-1}$$

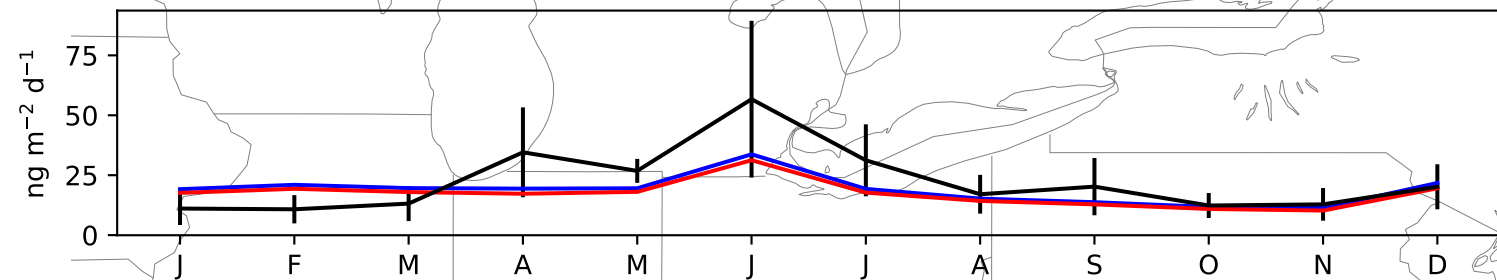
$$\text{Mean Obs.} = 8.9 \pm 4.1 \mu\text{g m}^{-2} \text{ yr}^{-1}$$

Wet deposition fluxes, Eastern USA

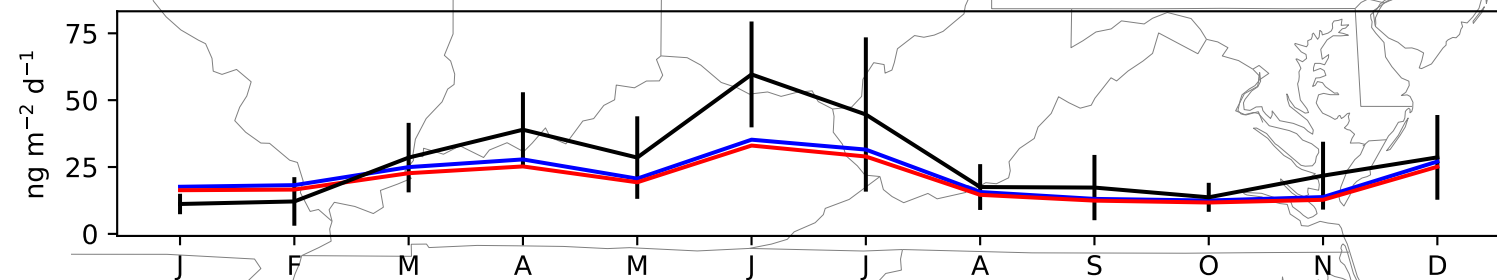
46 °N (7 sites)



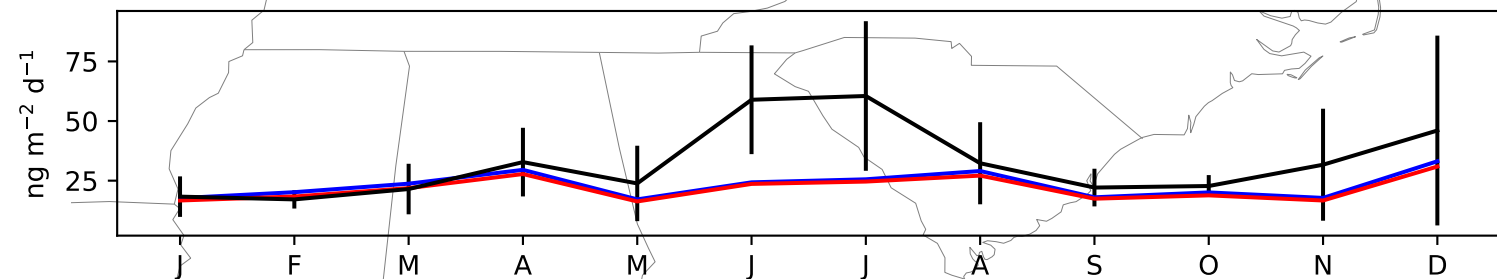
42 °N (21 sites)



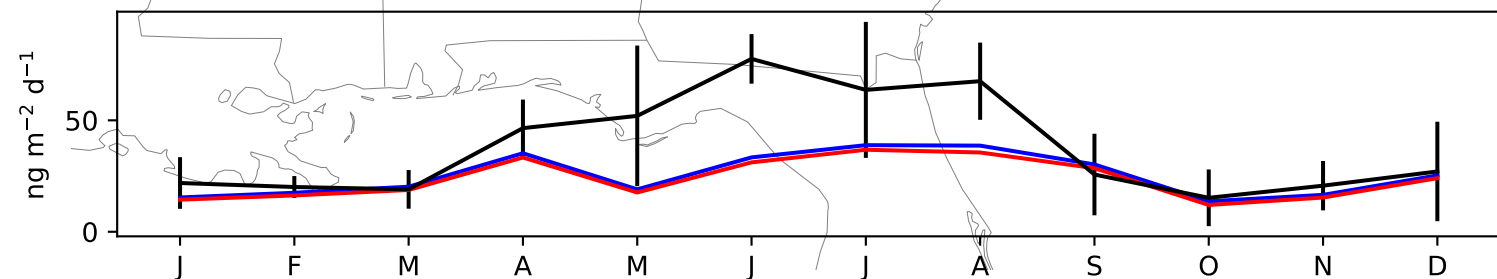
38 °N (14 sites)



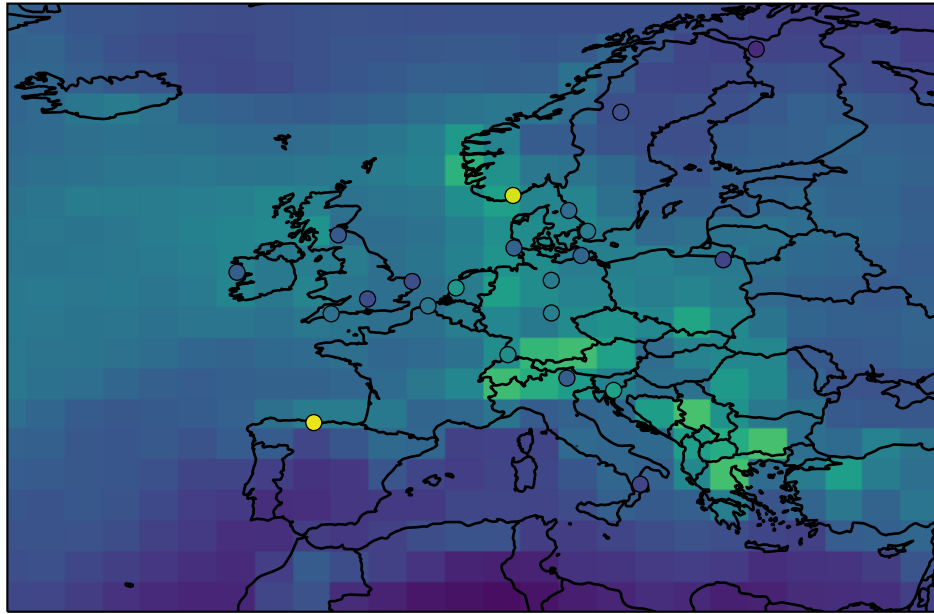
34 °N (8 sites)



30 °N (5 sites)



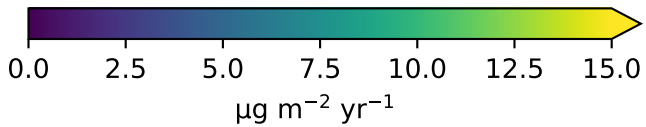
Hg Wet Deposition, Reference Model (2015), EMEP (2013-15)



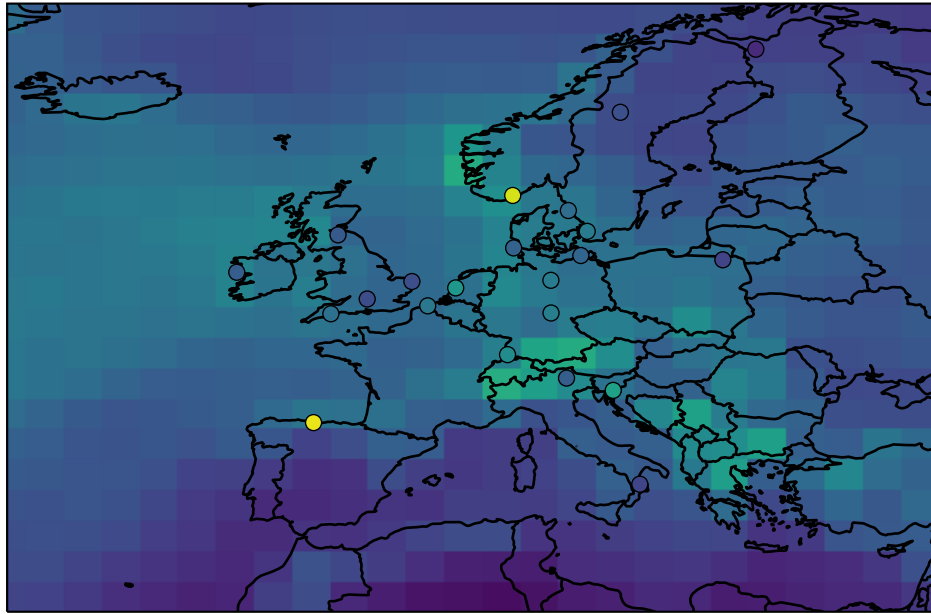
$R^2 = 0.243$

Mean Mod. = $6.2 \pm 1.3 \mu\text{g m}^{-2} \text{yr}^{-1}$

Mean Obs. = $5.9 \pm 3.1 \mu\text{g m}^{-2} \text{yr}^{-1}$



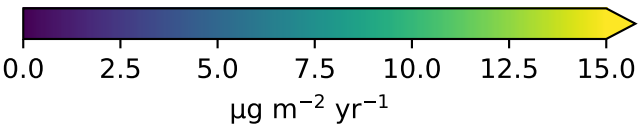
Hg Wet Deposition, New Model (2015), EMEP (2013-15)



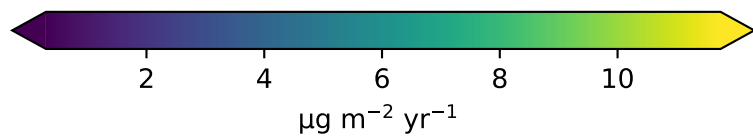
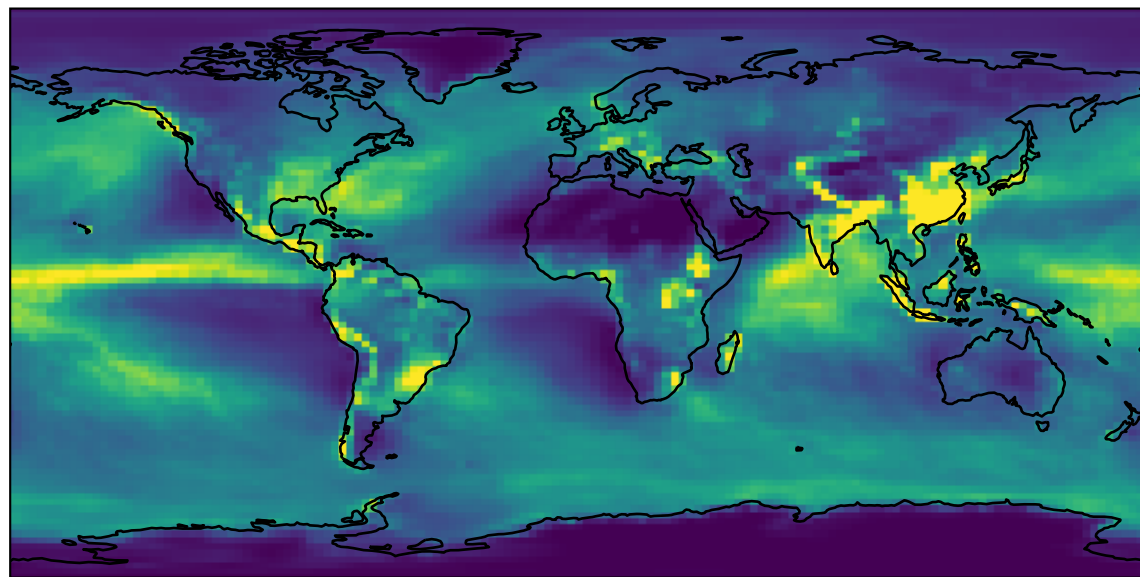
$R^2 = 0.234$

Mean Mod. = $5.5 \pm 1.1 \mu\text{g m}^{-2} \text{yr}^{-1}$

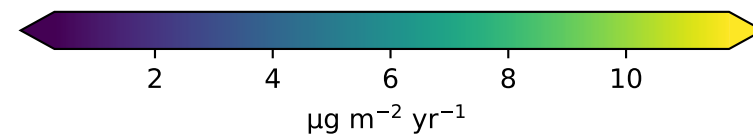
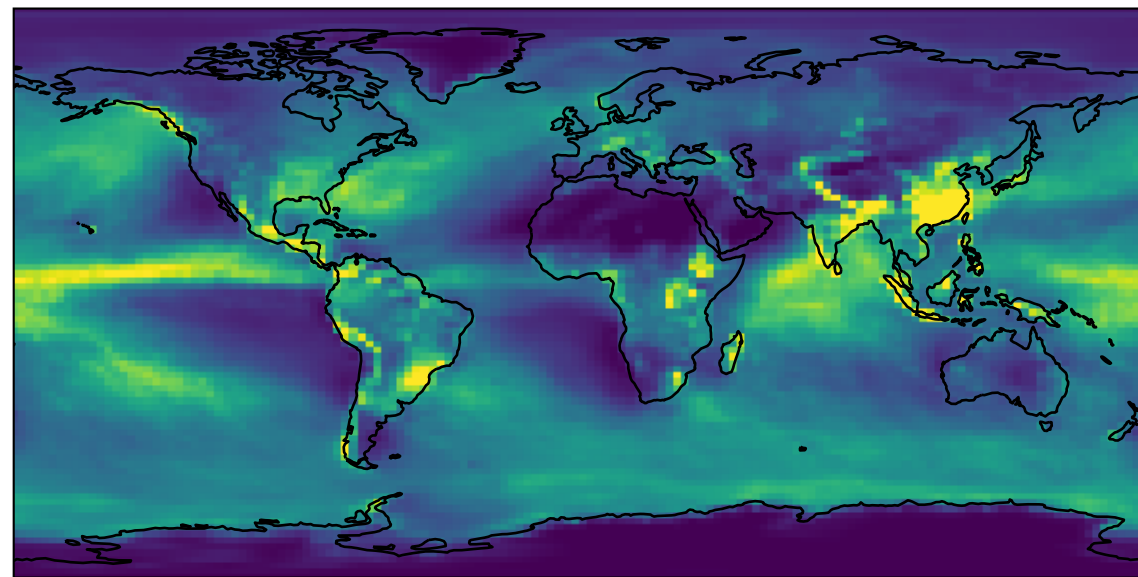
Mean Obs. = $5.9 \pm 3.1 \mu\text{g m}^{-2} \text{yr}^{-1}$



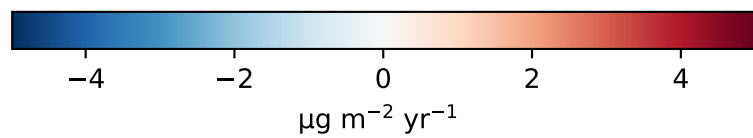
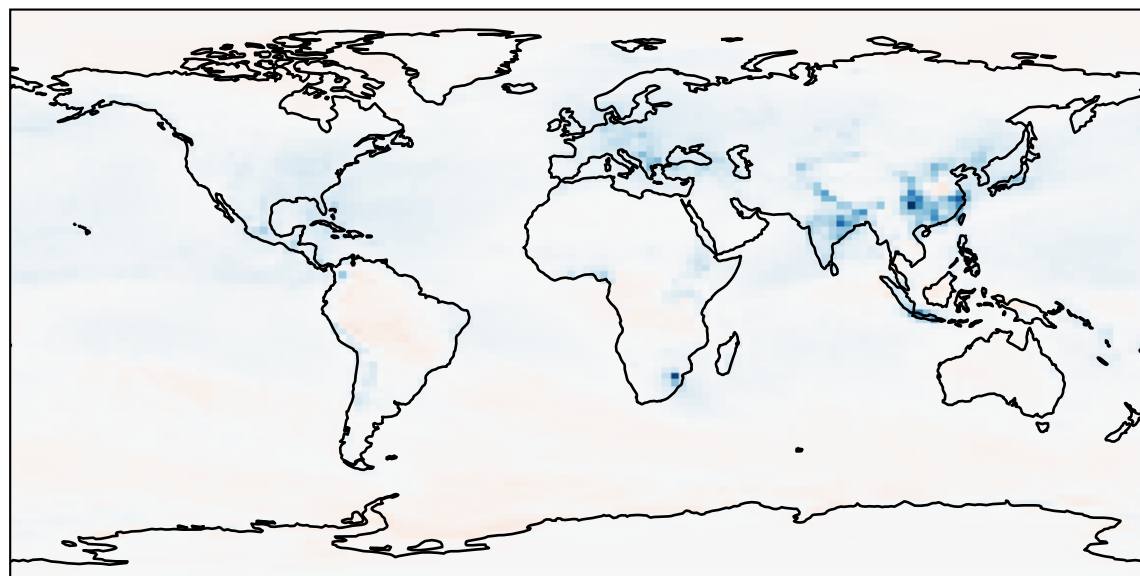
Reference Model Version: Total Wet Dep



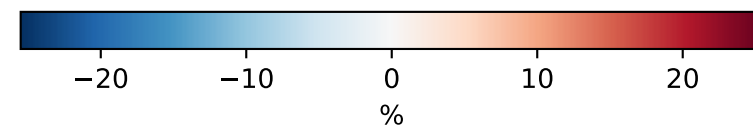
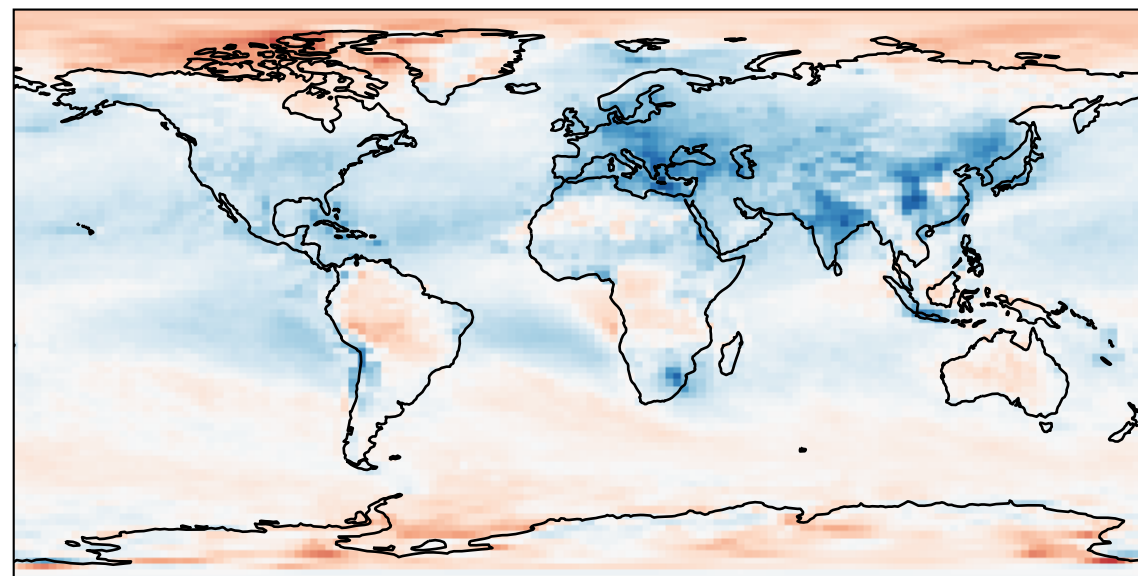
New Model Version: Total Wet Dep



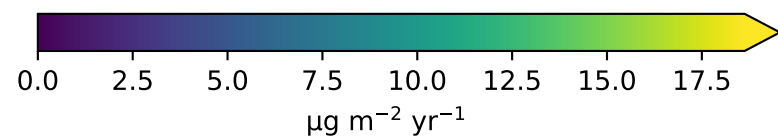
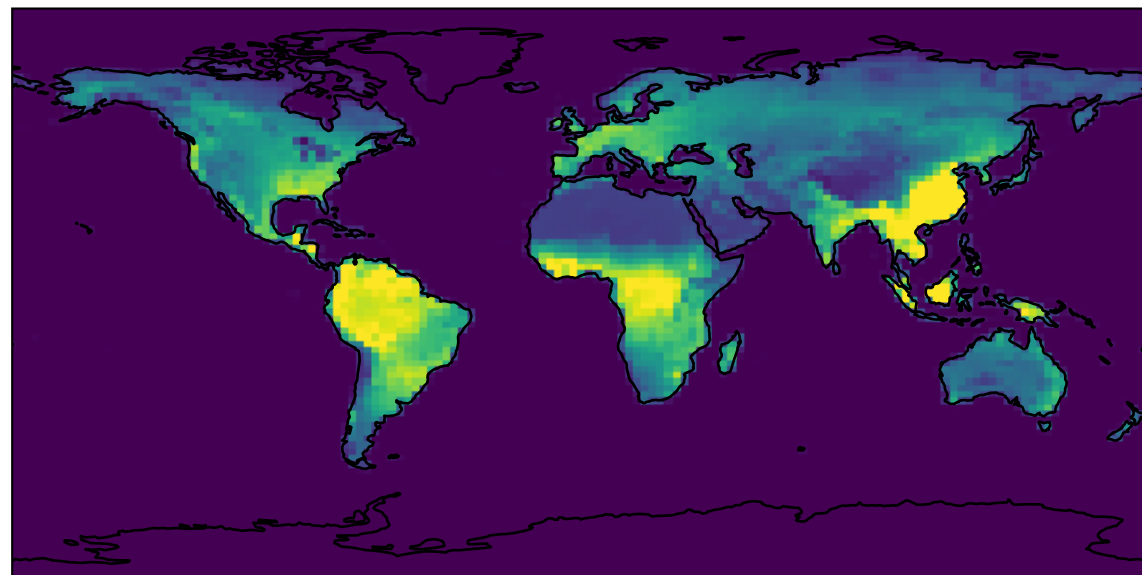
Absolute Difference



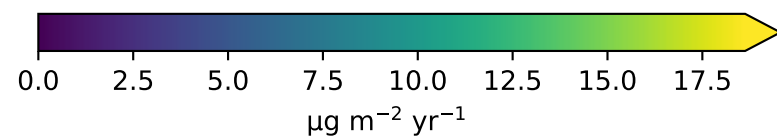
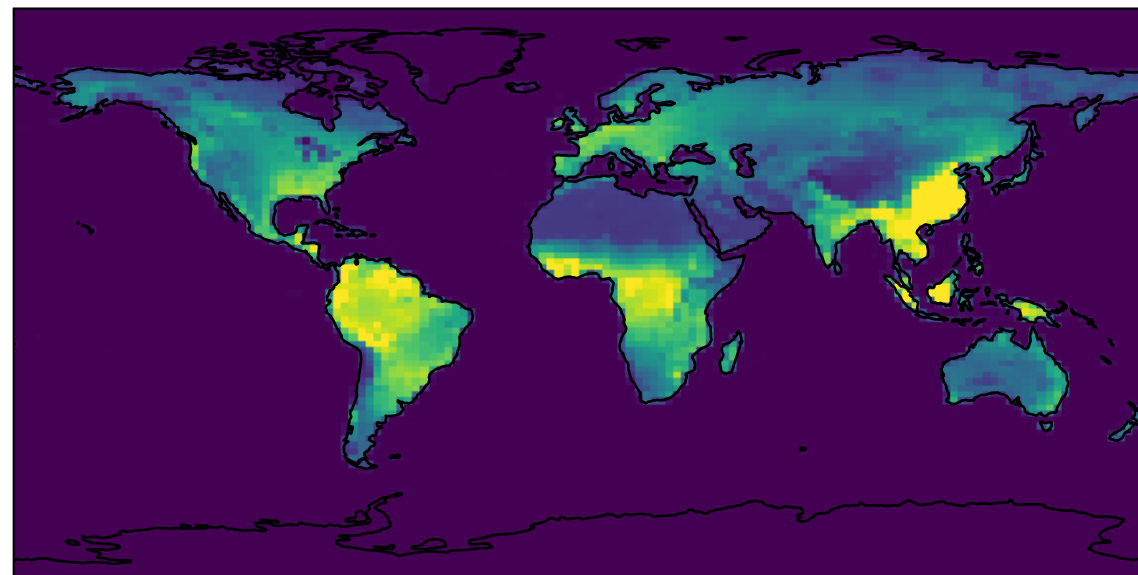
Percent Difference (%)



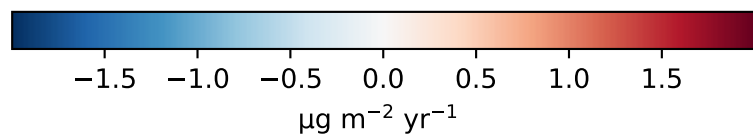
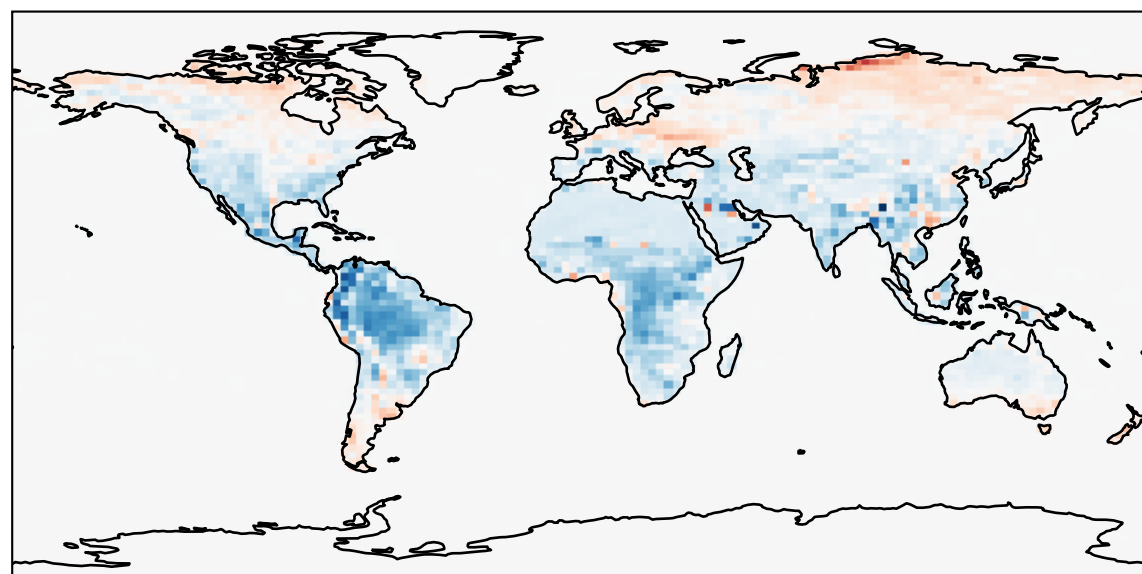
Reference Model Version: Hg(0) Dry Dep



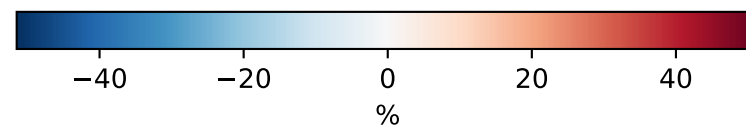
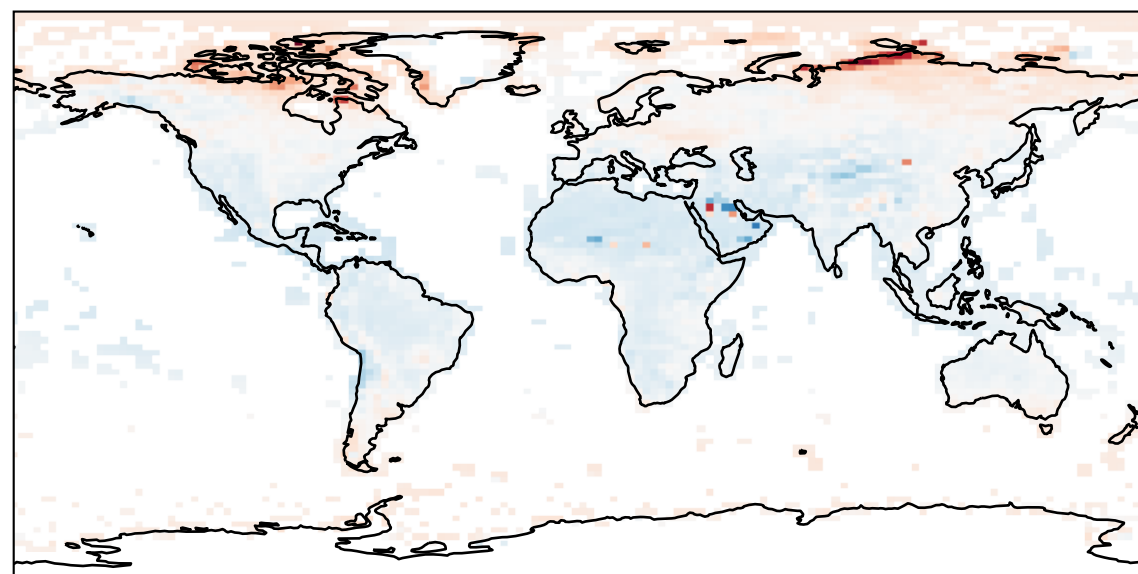
New Model Version: Hg(0) Dry Dep



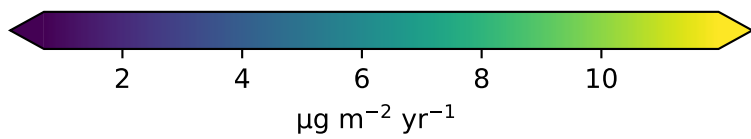
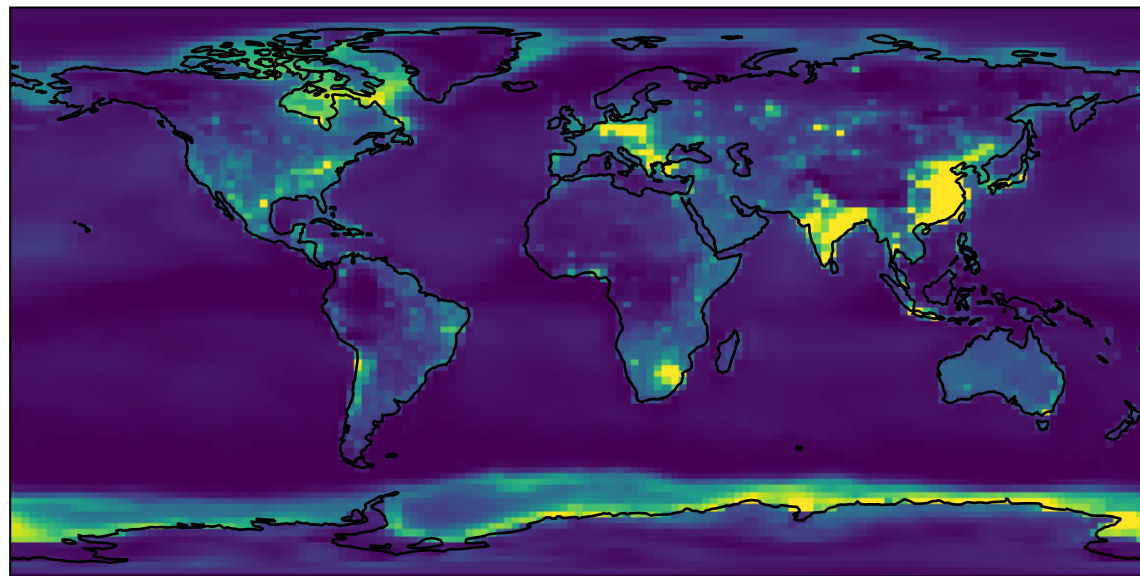
Absolute Difference



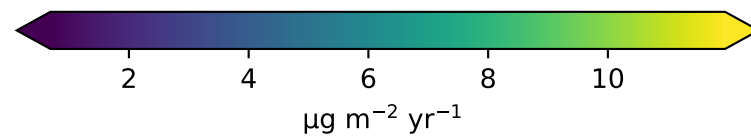
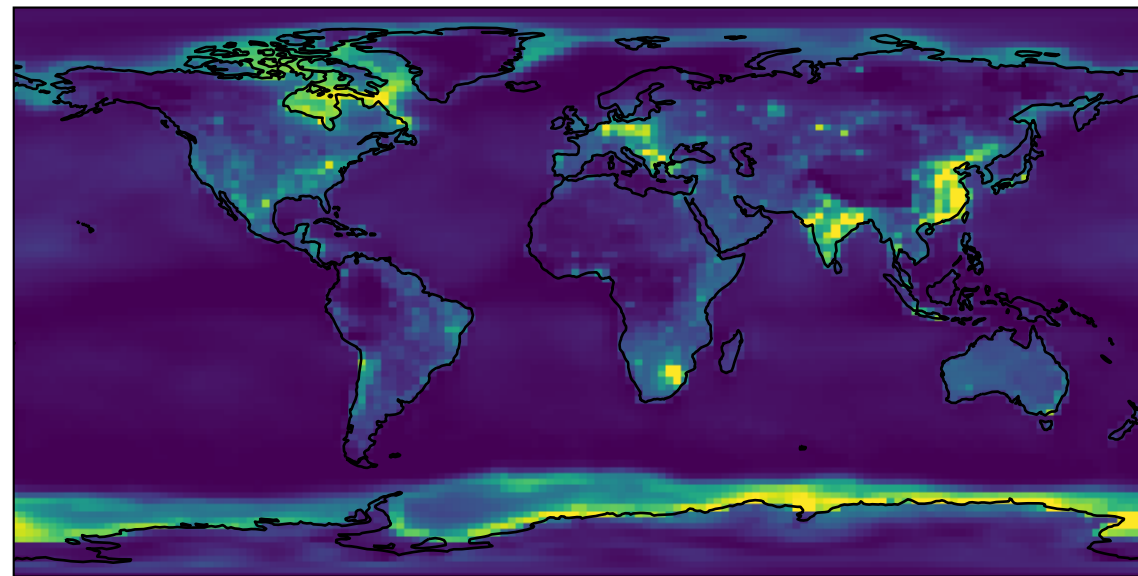
Percent Difference (%)



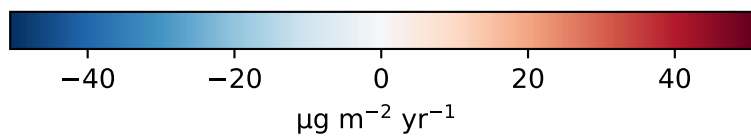
Reference Model Version: Hg(II)+Hg(P) Dry Dep



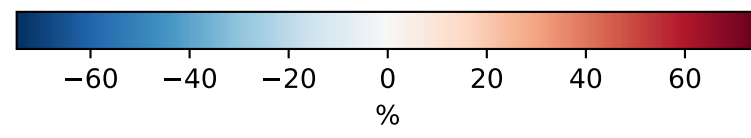
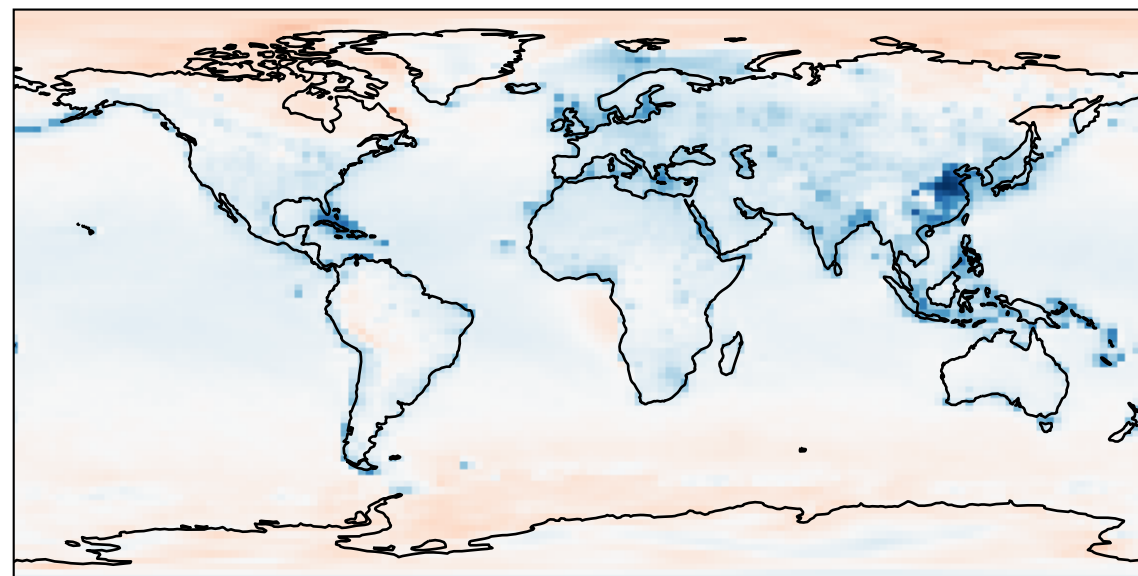
New Model Version: Hg(II)+Hg(P) Dry Dep



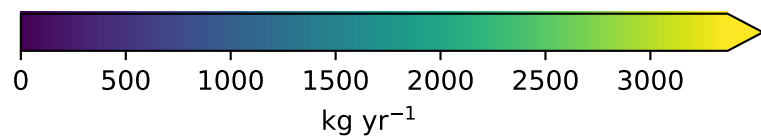
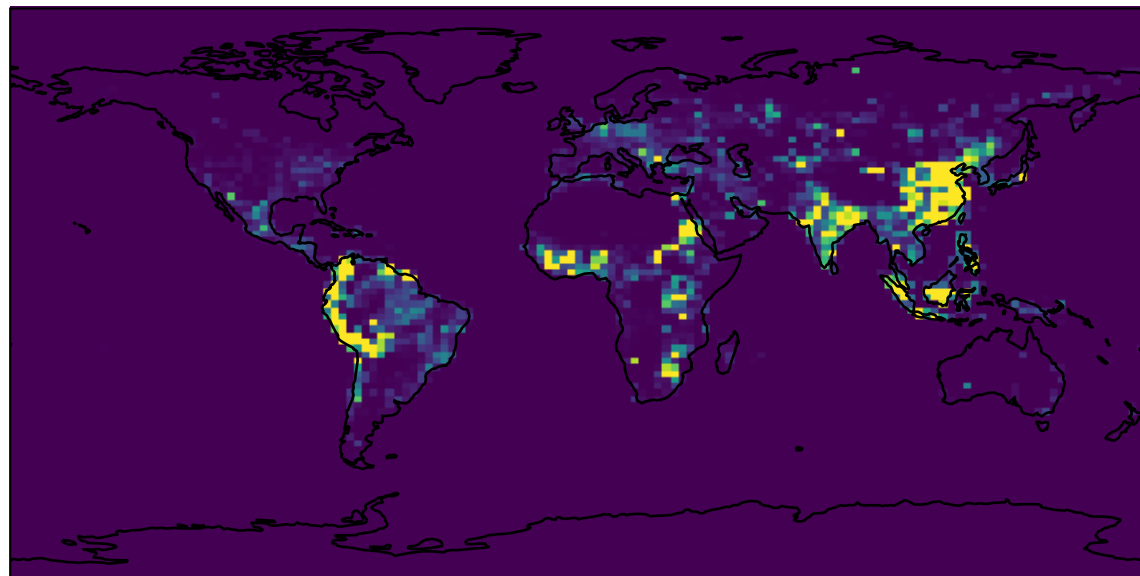
Absolute Difference



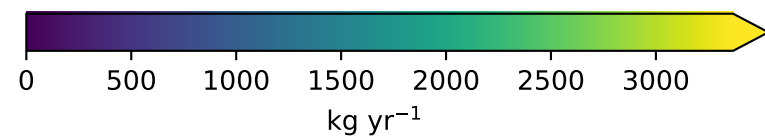
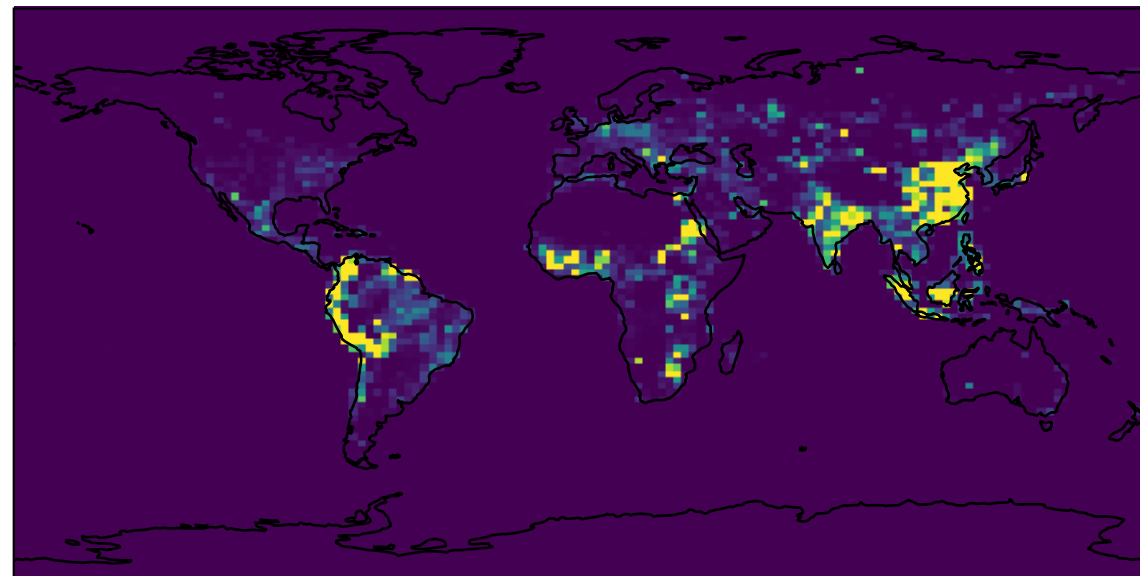
Percent Difference (%)



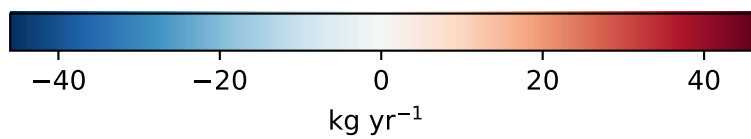
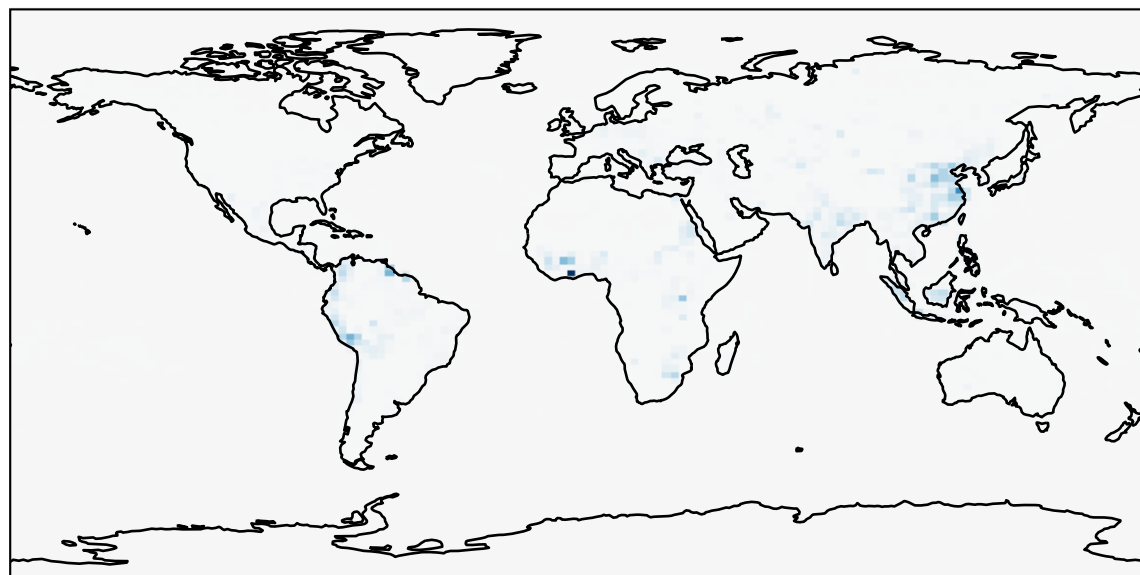
Reference Model Version: Anthro Emissions - Hg(0)



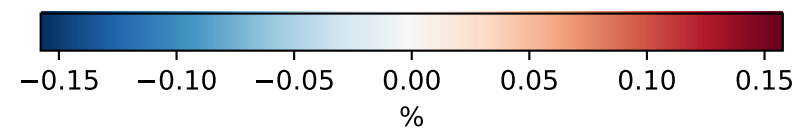
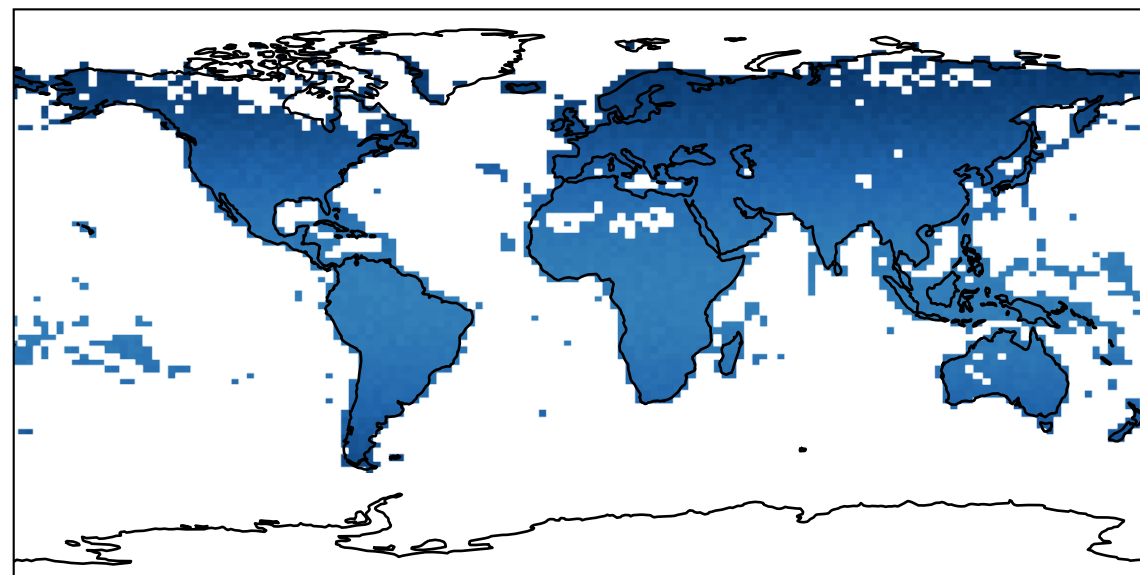
New Model Version: Anthro Emissions - Hg(0)



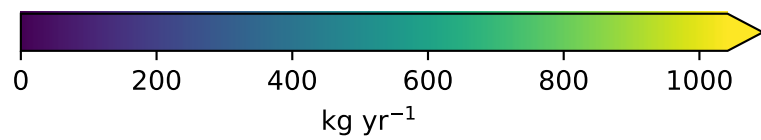
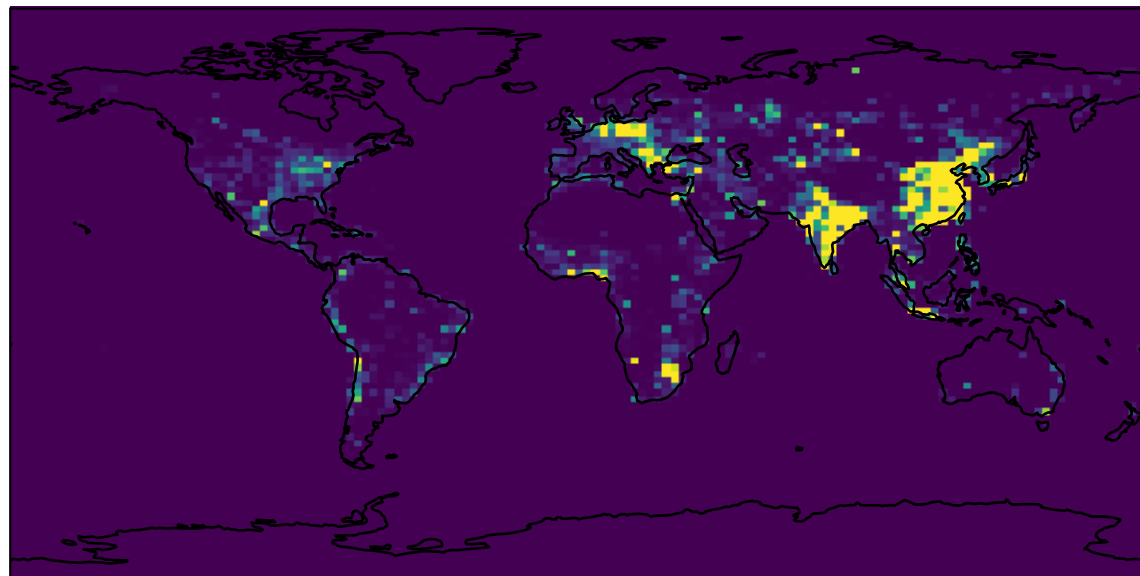
Absolute Difference



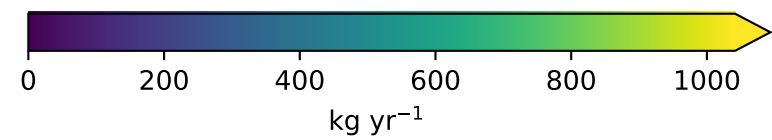
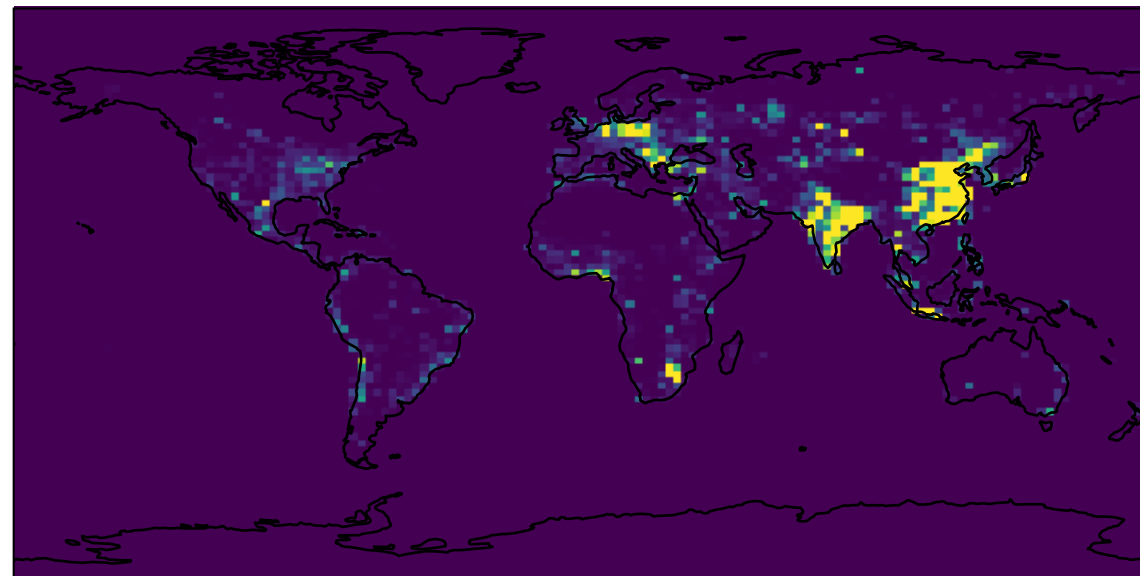
Percent Difference (%)



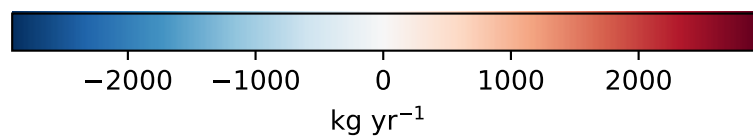
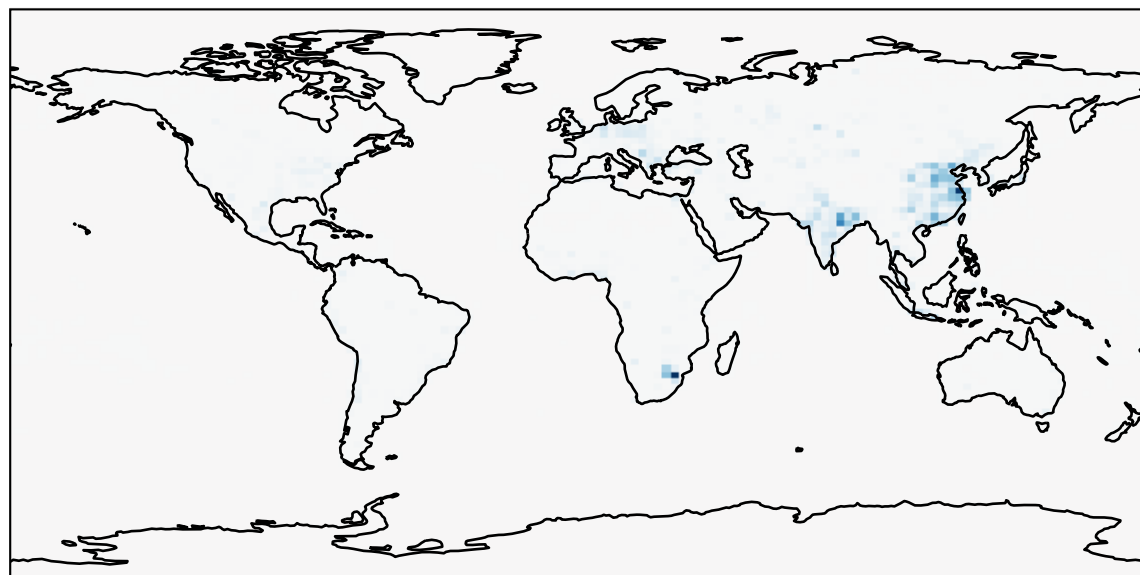
Reference Model Version: Anthro Emissions - Hg(II)+Hg(P)



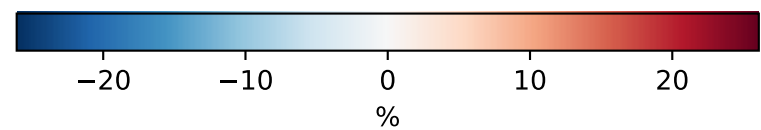
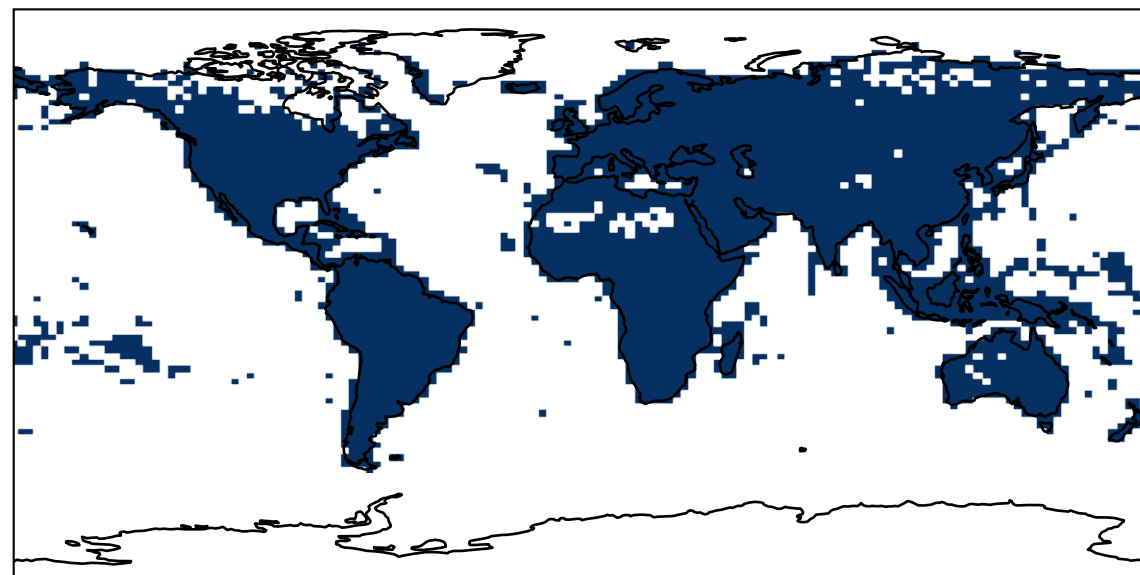
New Model Version: Anthro Emissions - Hg(II)+Hg(P)



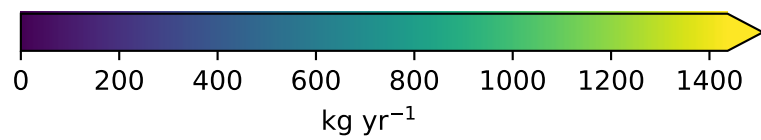
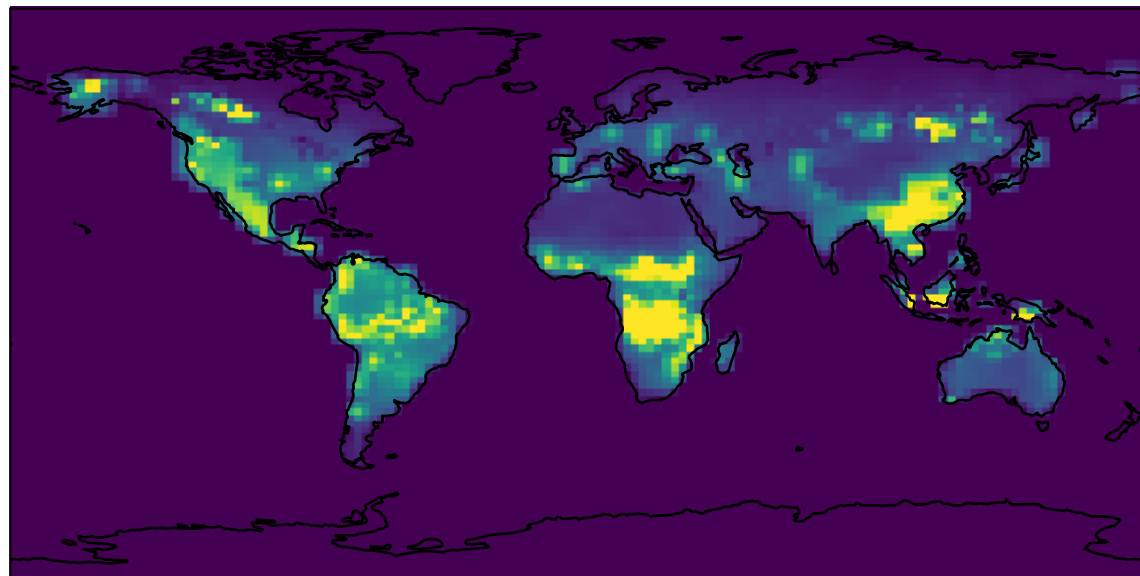
Absolute Difference



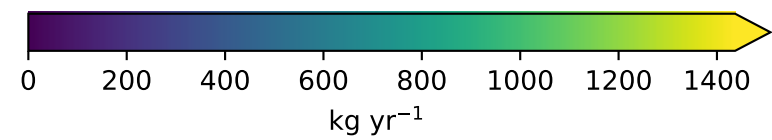
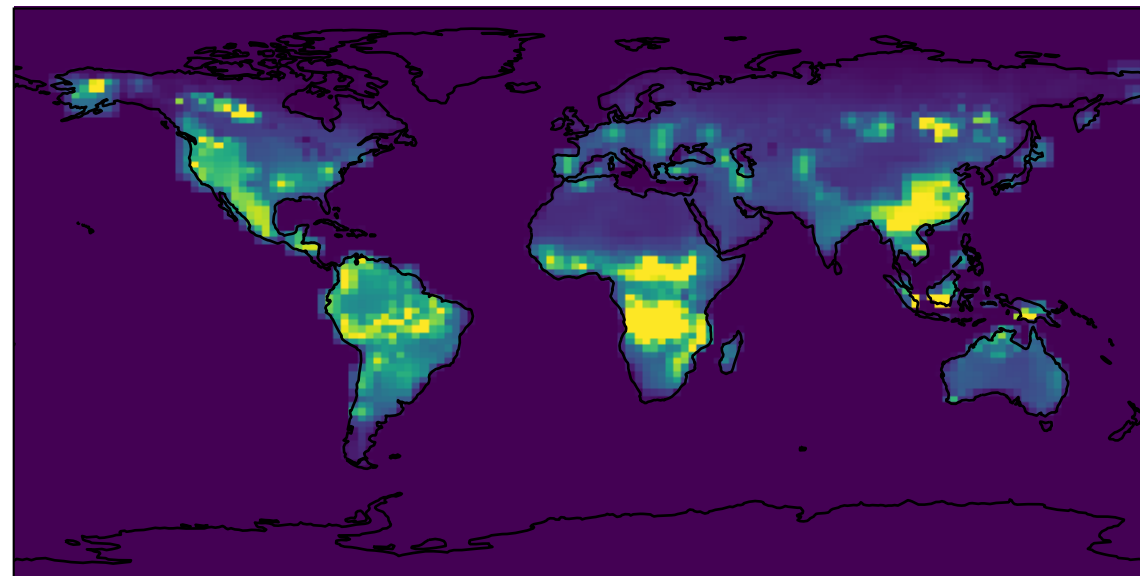
Percent Difference (%)



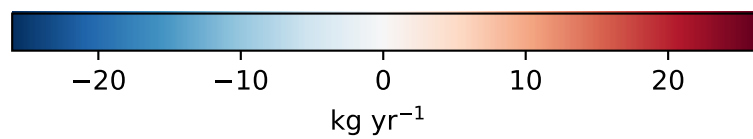
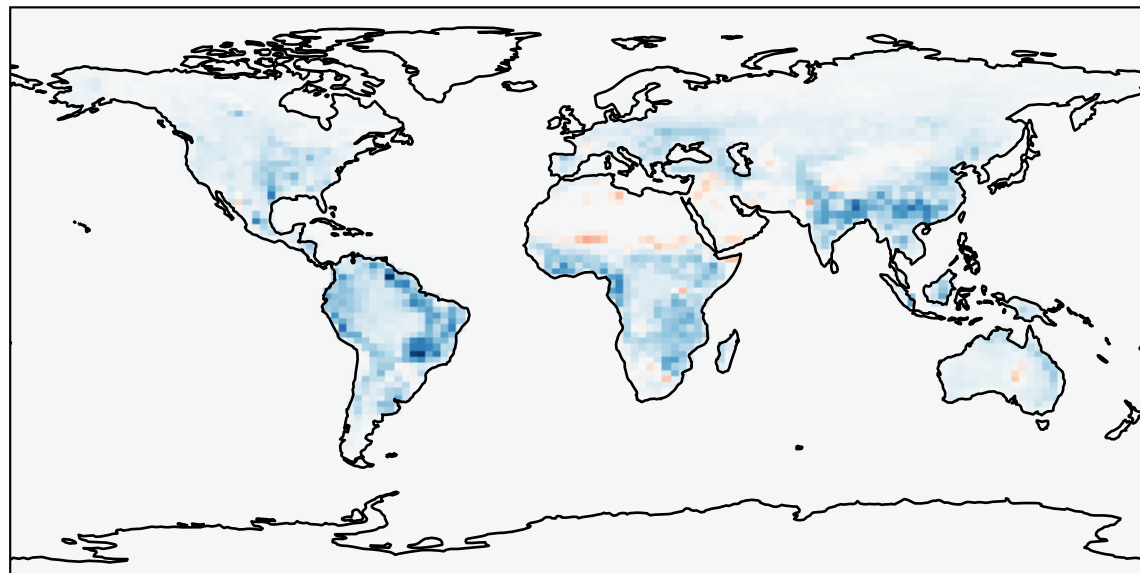
Reference Model Version: Direct Terrestrial - Geo, BB, & Soil



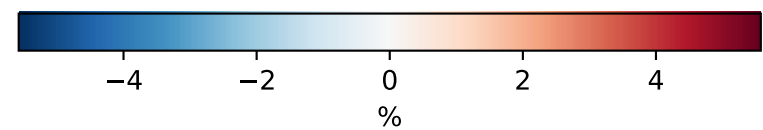
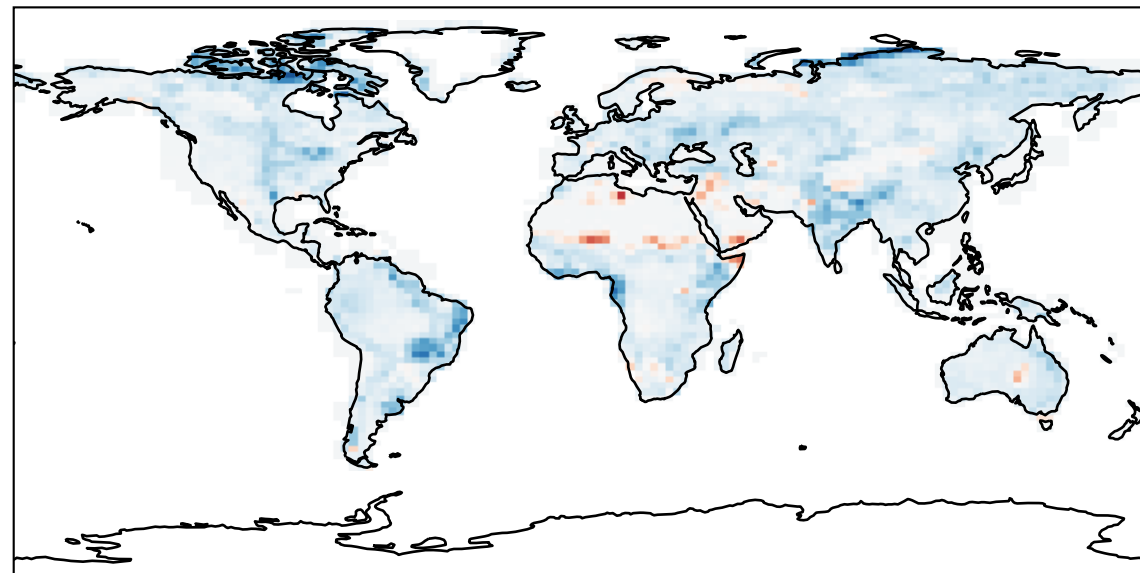
New Model Version: Direct Terrestrial - Geo, BB, & Soil



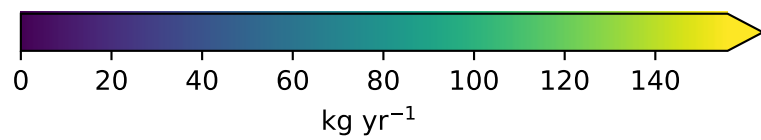
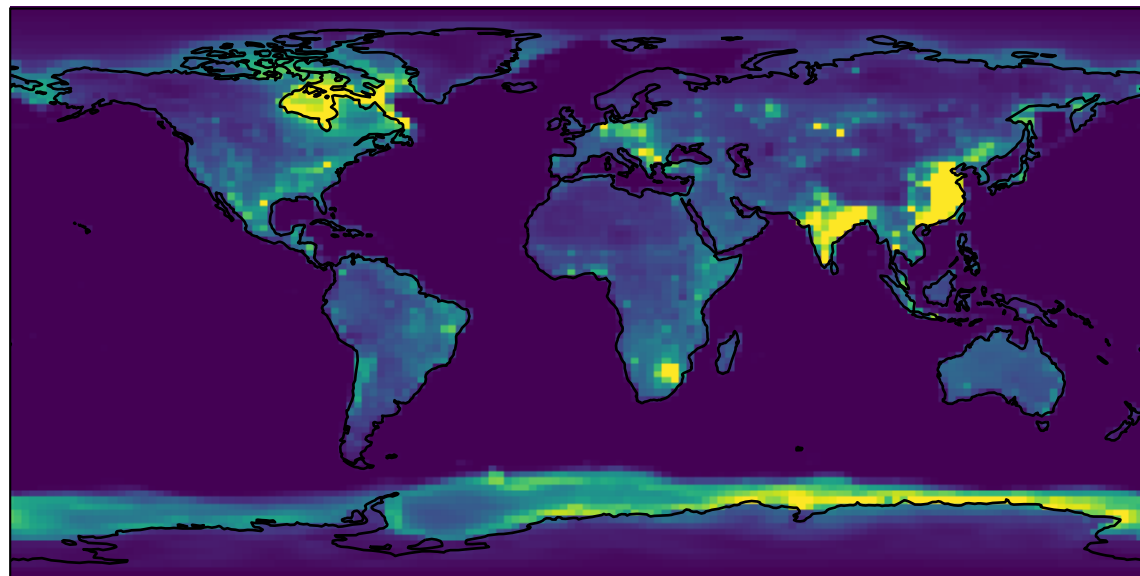
Absolute Difference



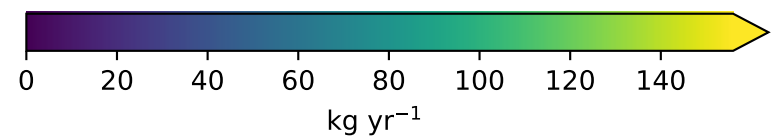
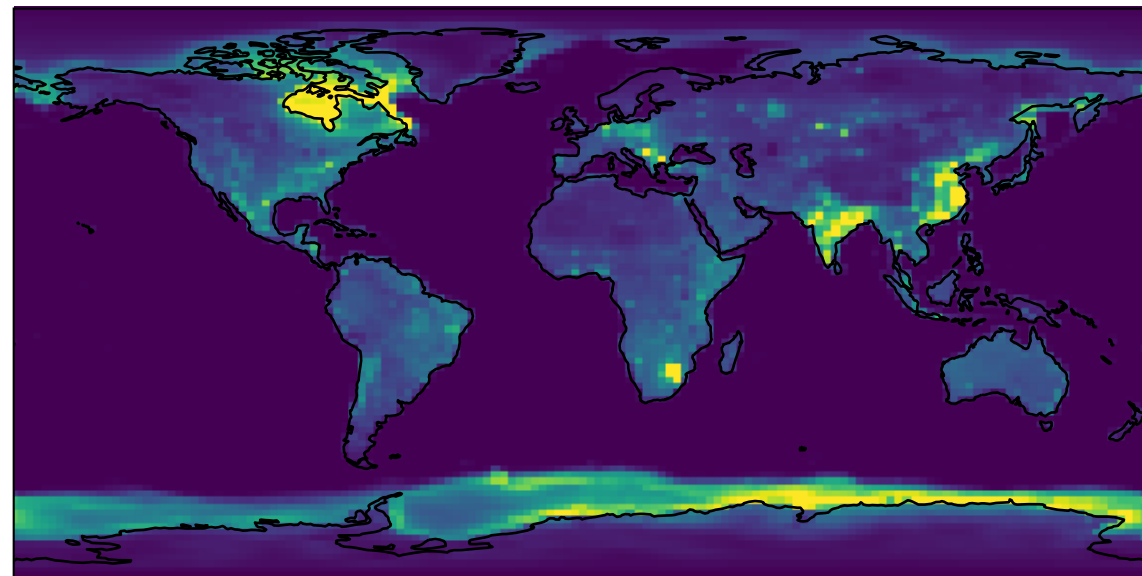
Percent Difference (%)



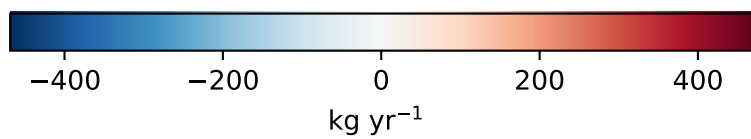
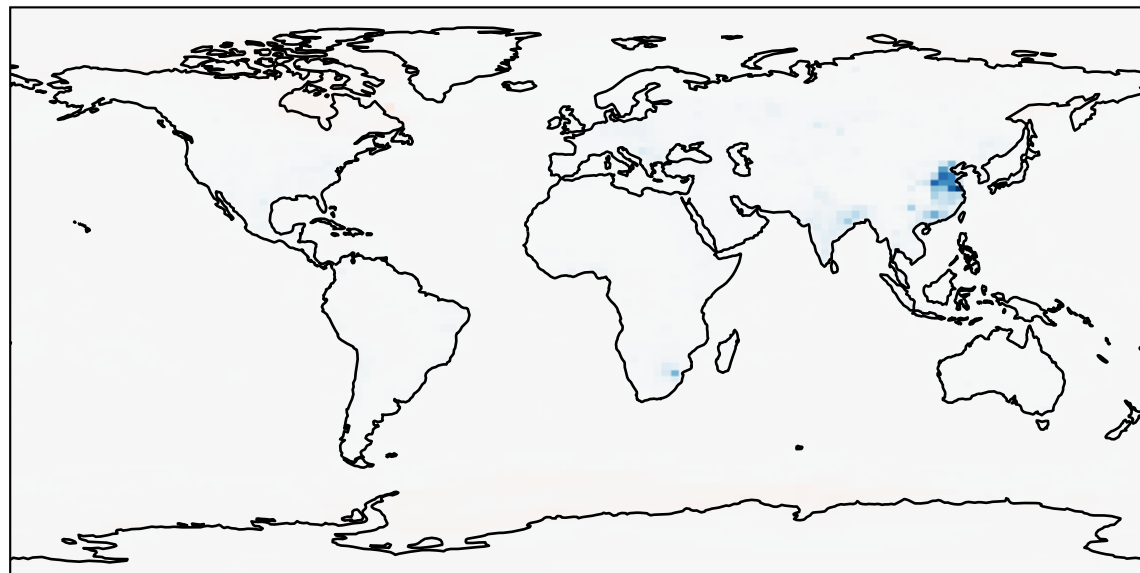
Reference Model Version: Prompt Re-emission - Land & Snow



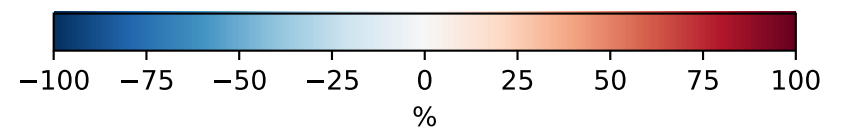
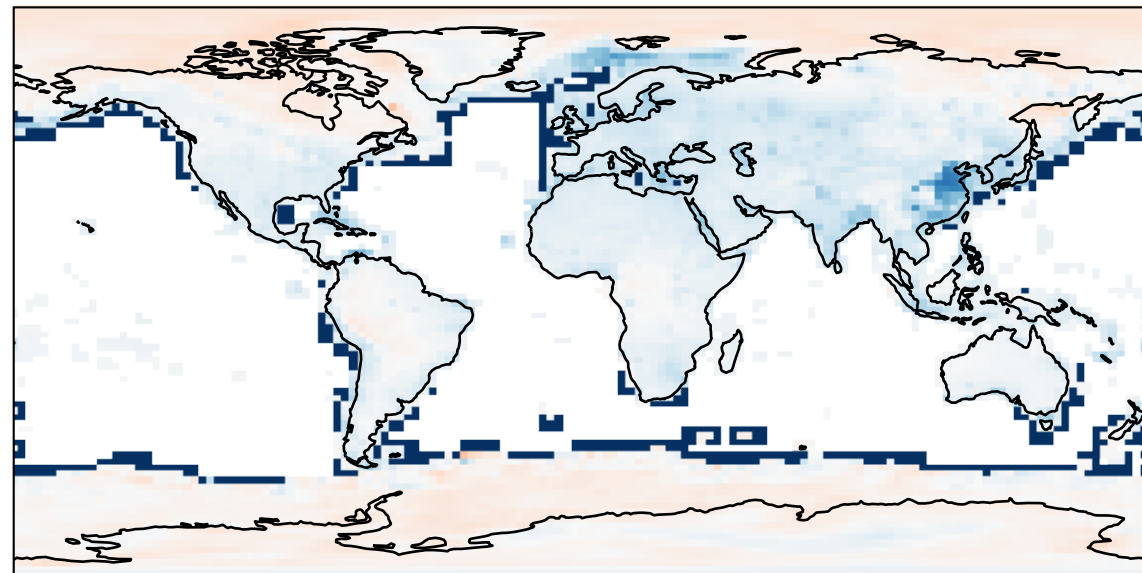
New Model Version: Prompt Re-emission - Land & Snow



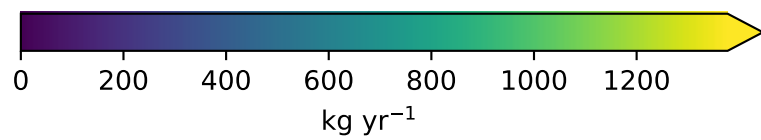
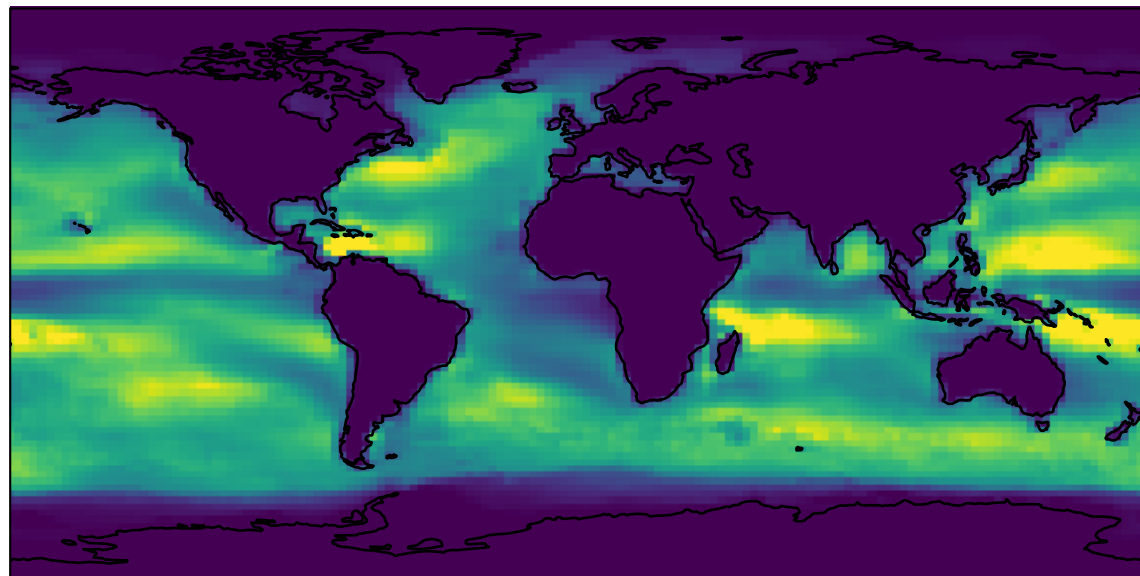
Absolute Difference



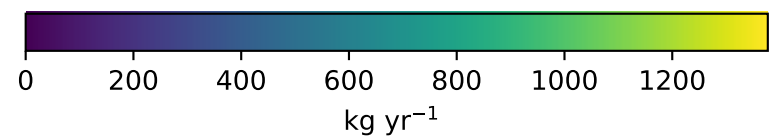
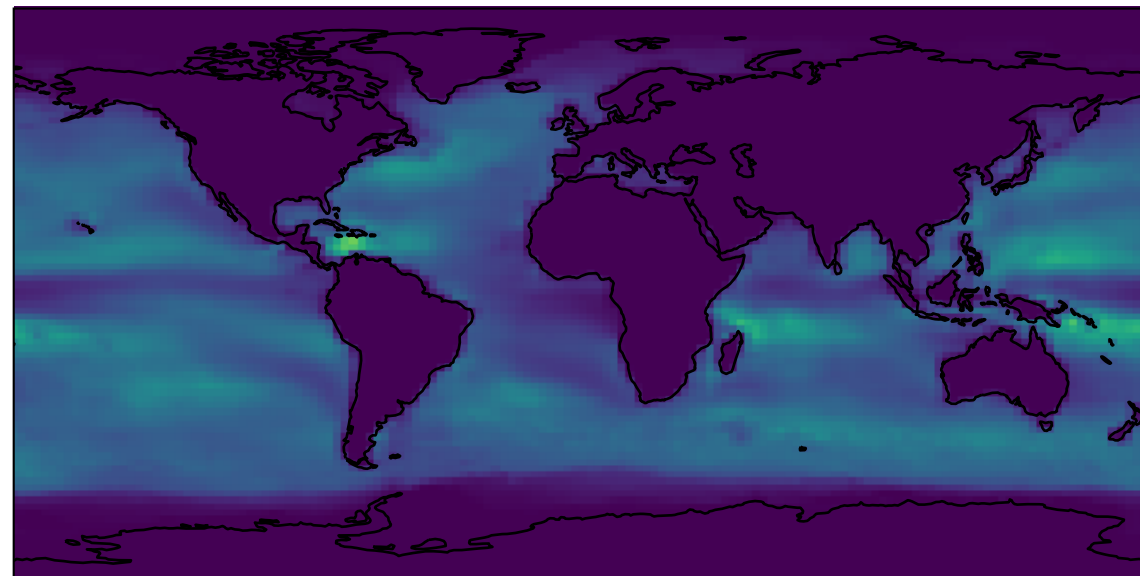
Percent Difference (%)



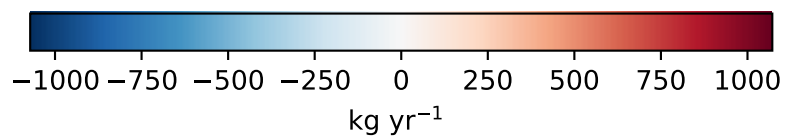
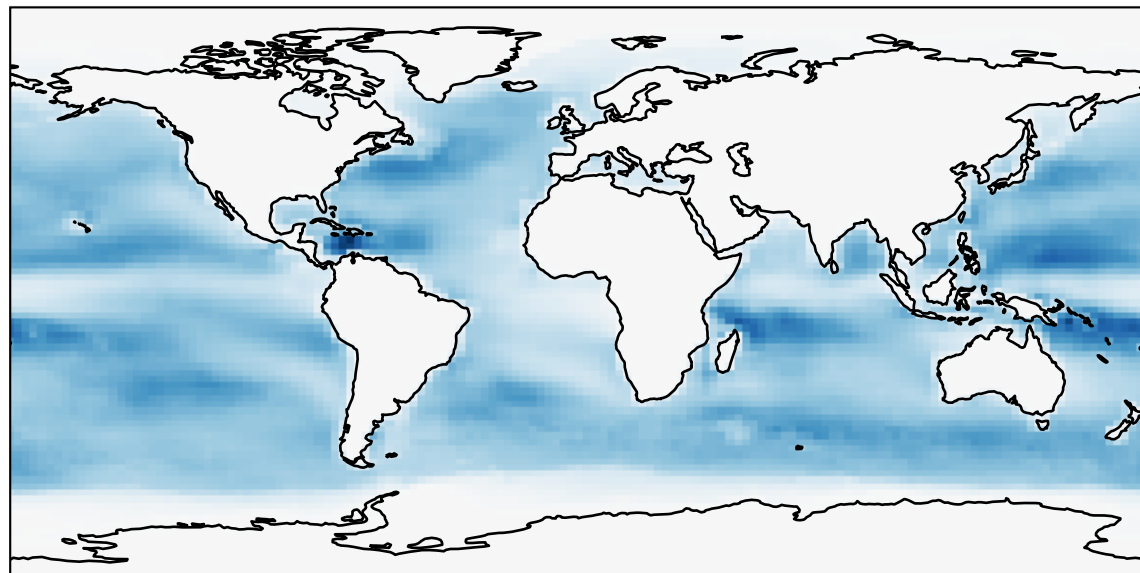
Reference Model Version: Gross Ocean Evasion



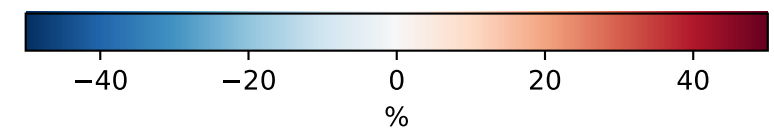
New Model Version: Gross Ocean Evasion



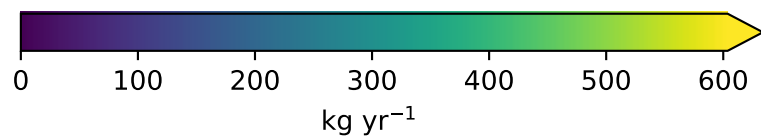
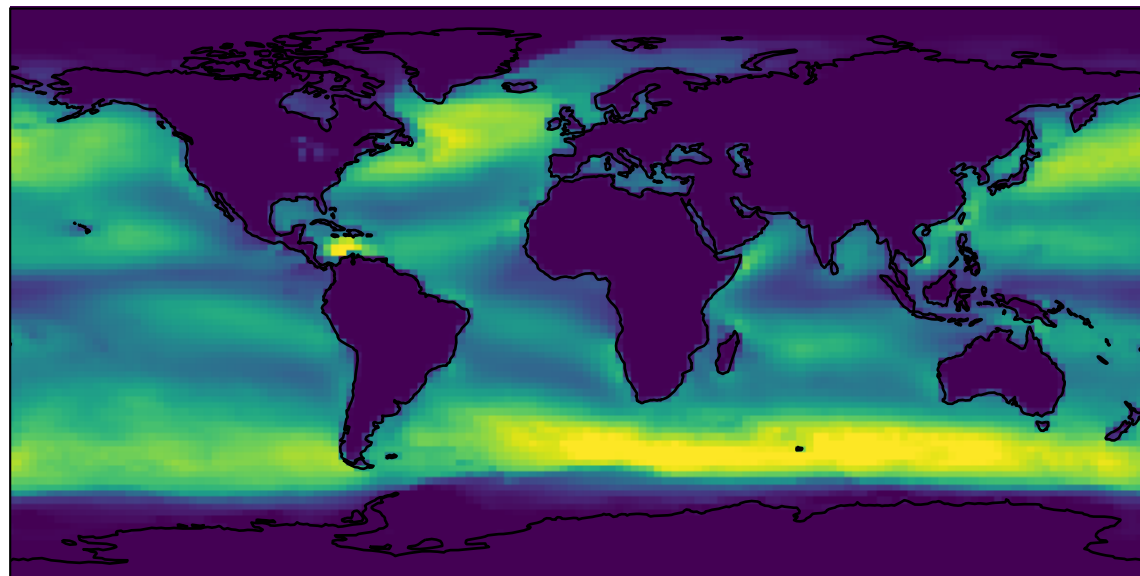
Absolute Difference



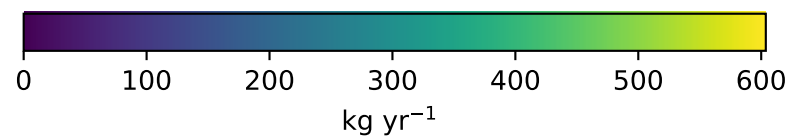
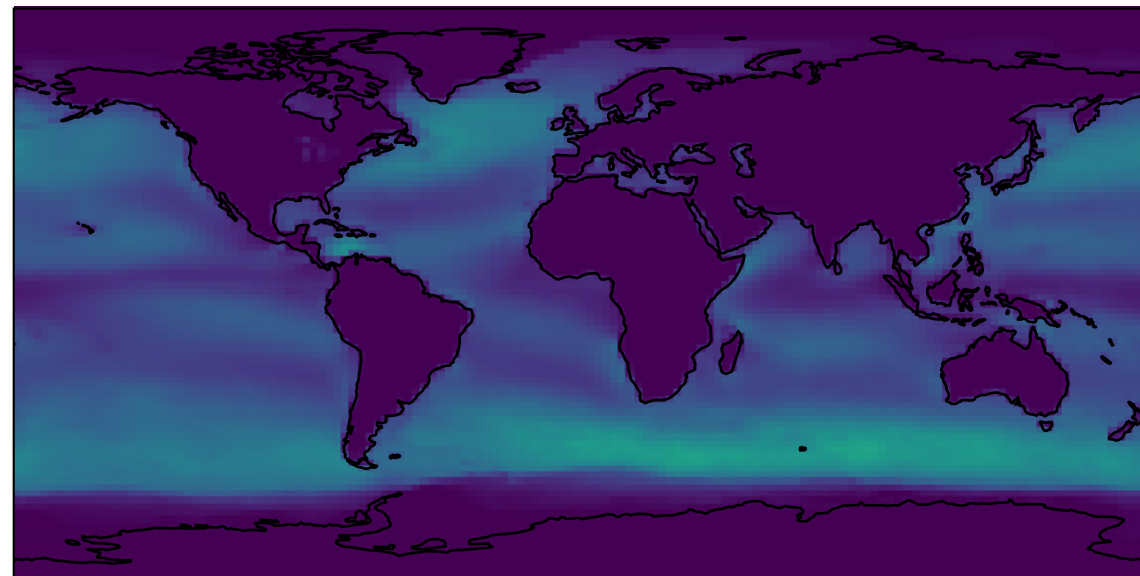
Percent Difference (%)



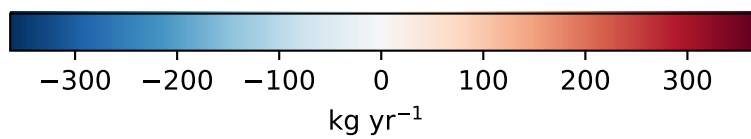
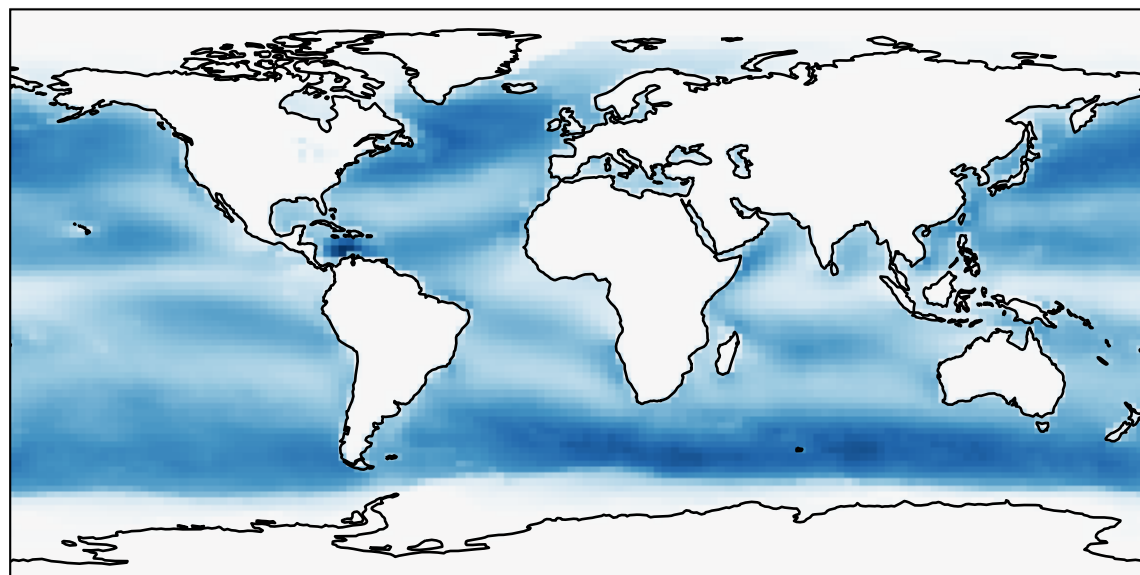
Reference Model Version: Gross Ocean Hg(0) Uptake



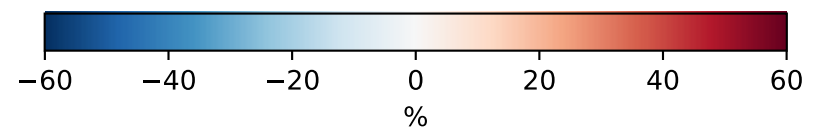
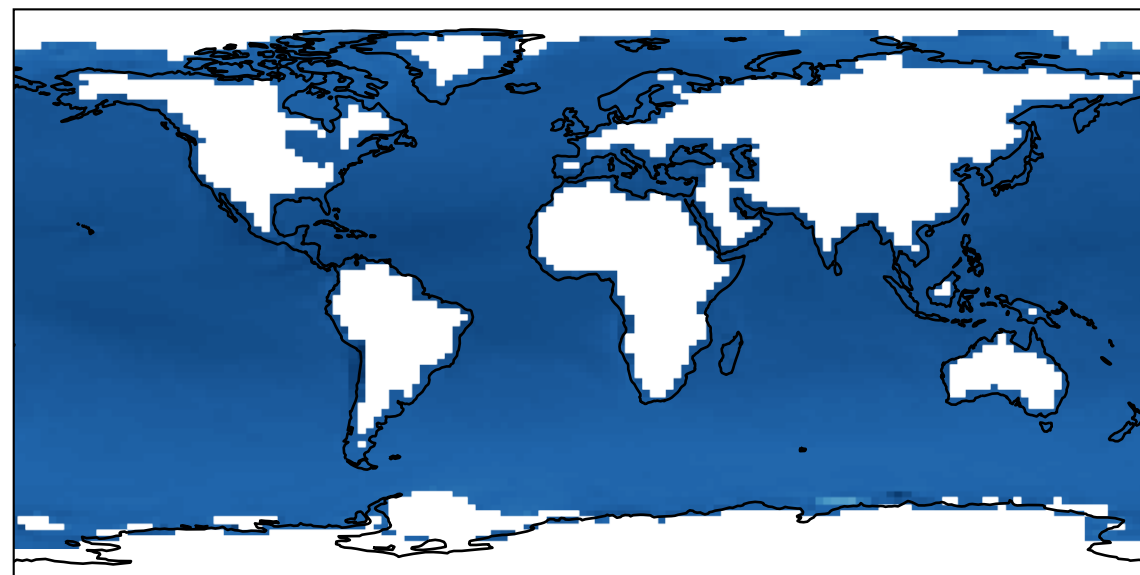
New Model Version: Gross Ocean Hg(0) Uptake



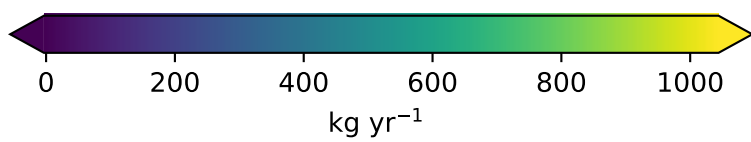
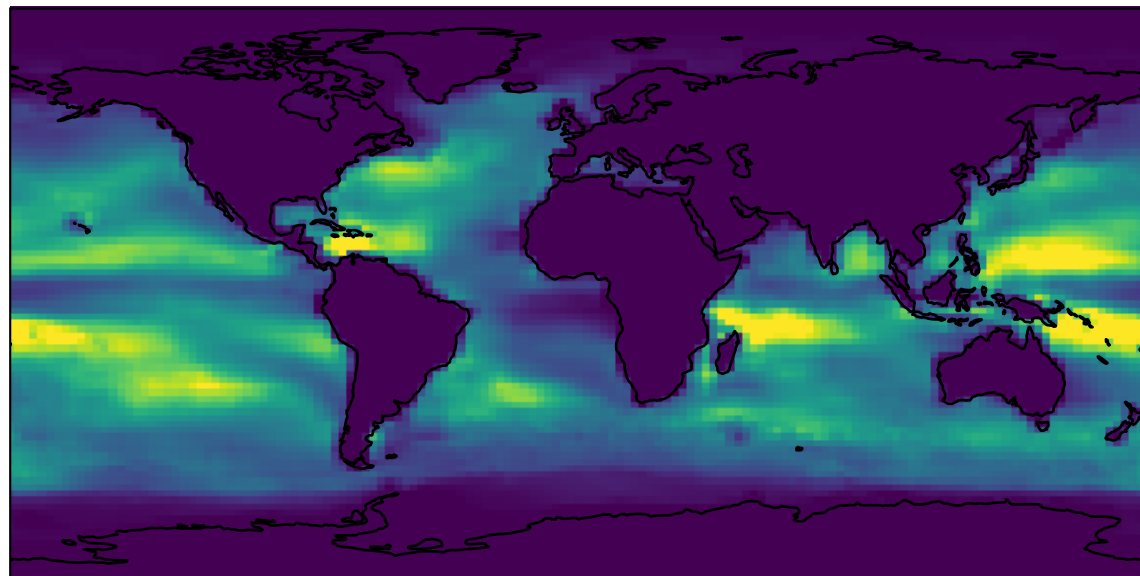
Absolute Difference



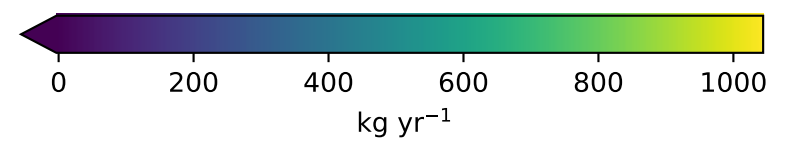
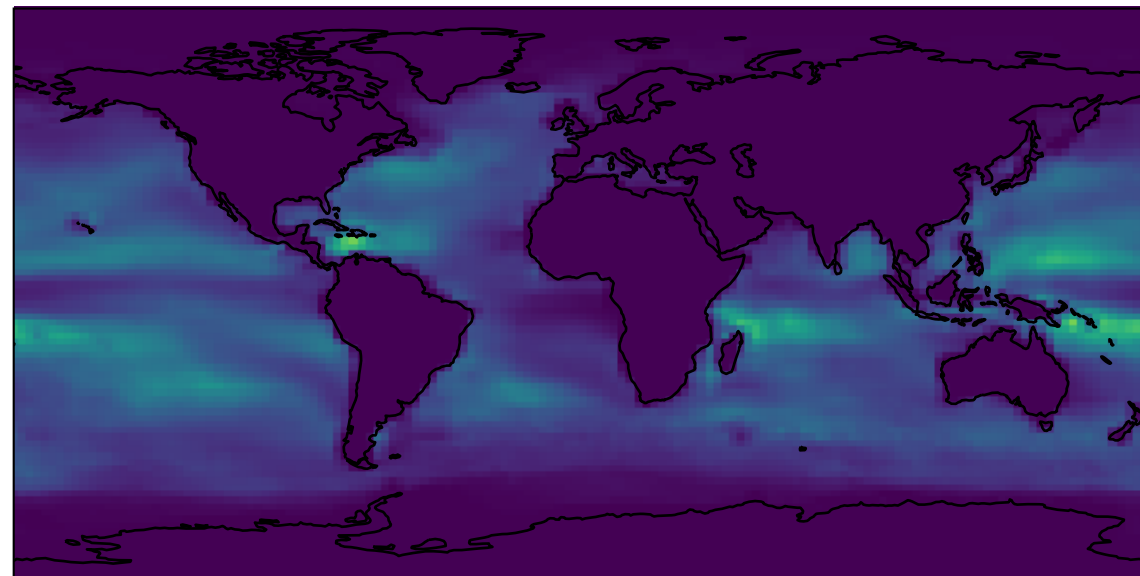
Percent Difference (%)



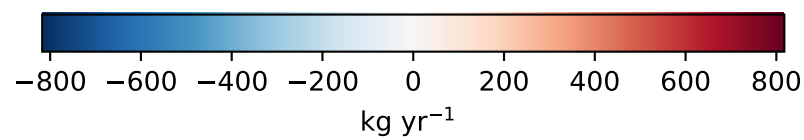
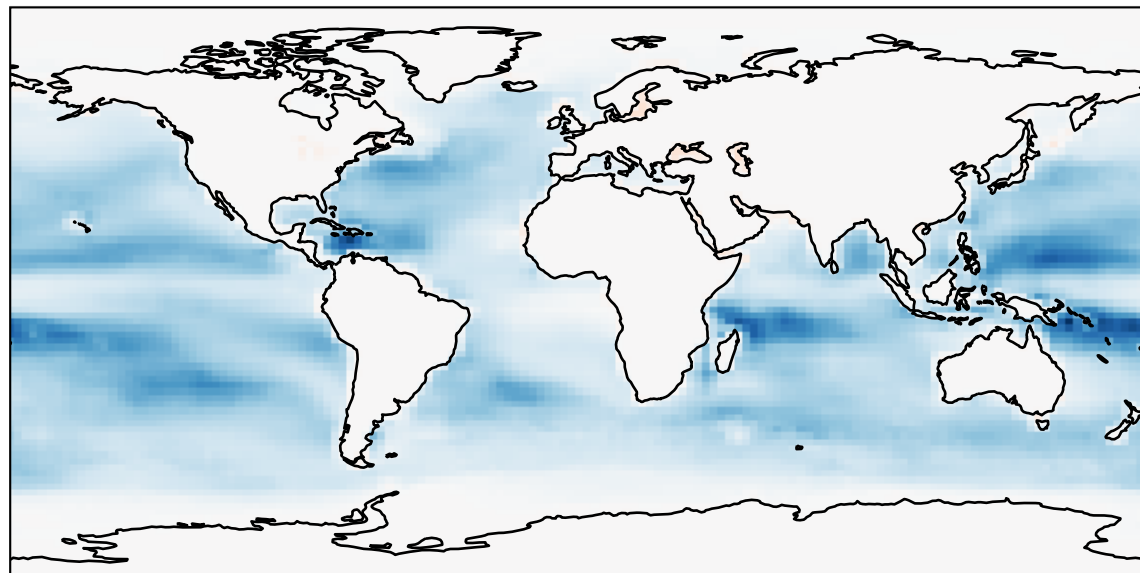
Reference Model Version: Net Ocean Evasion



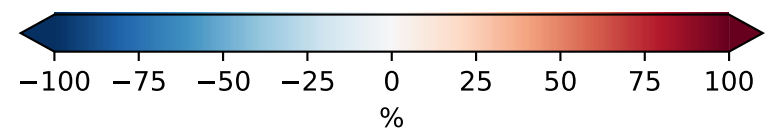
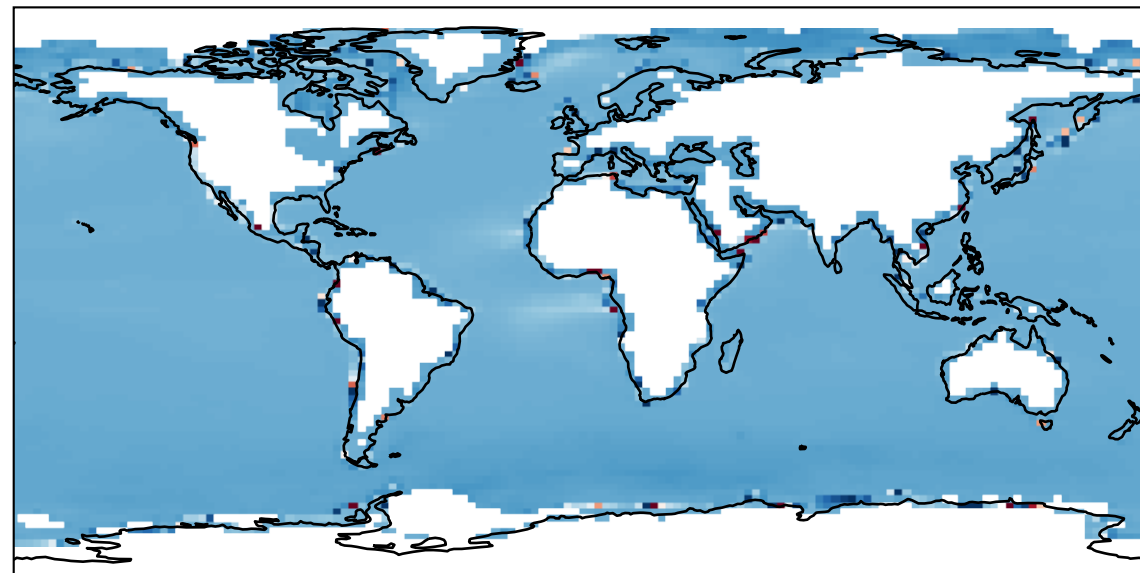
New Model Version: Net Ocean Evasion



Absolute Difference



Percent Difference (%)



	EmisHg0anthro	EmisHg2HgPanthro	EmisHg0geogenic	EmisHg0soil	EmisHg0biomass	EmisHg0land	EmisHg0snow	DryDep_Hg0	DryDep_Hg2	DryDep_HgP	WetLossTot_Hg2	WetLossTot_HgP	FluxHg0fromAirToOcean	FluxHg0fromOceanToAir	LossHg2bySeaSalt
Ref	1828.4	539.65	250.48	844.72	360.51	111.15	153.18	1298.0	1136.0	67.695	2094.8	492.94	2262.3	5164.9	1845.7
New	1826.3	399.02	250.17	836.29	360.08	92.946	158.41	1264.8	1060.0	27.036	2206.2	308.88	1113.4	2579.2	1865.7