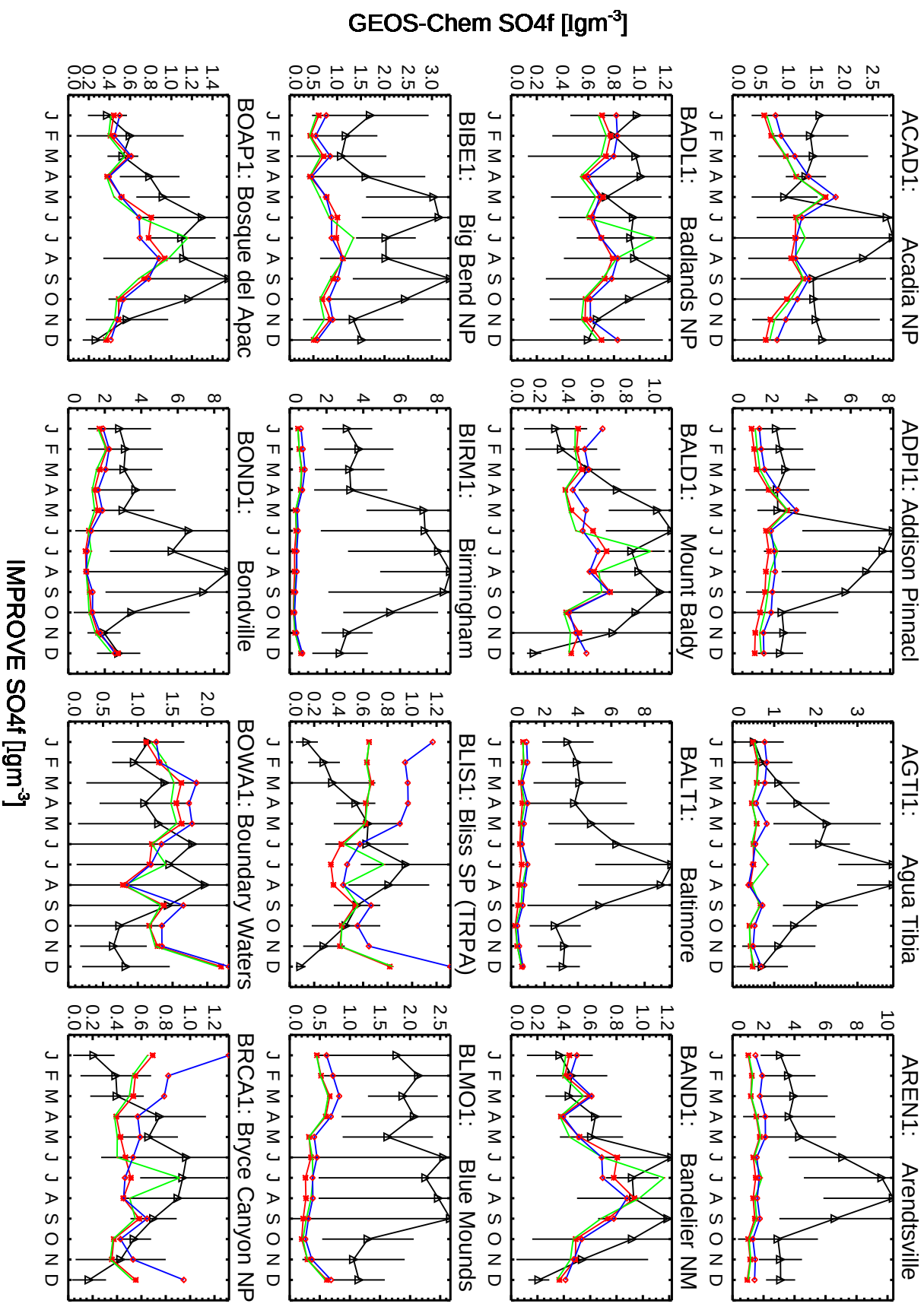
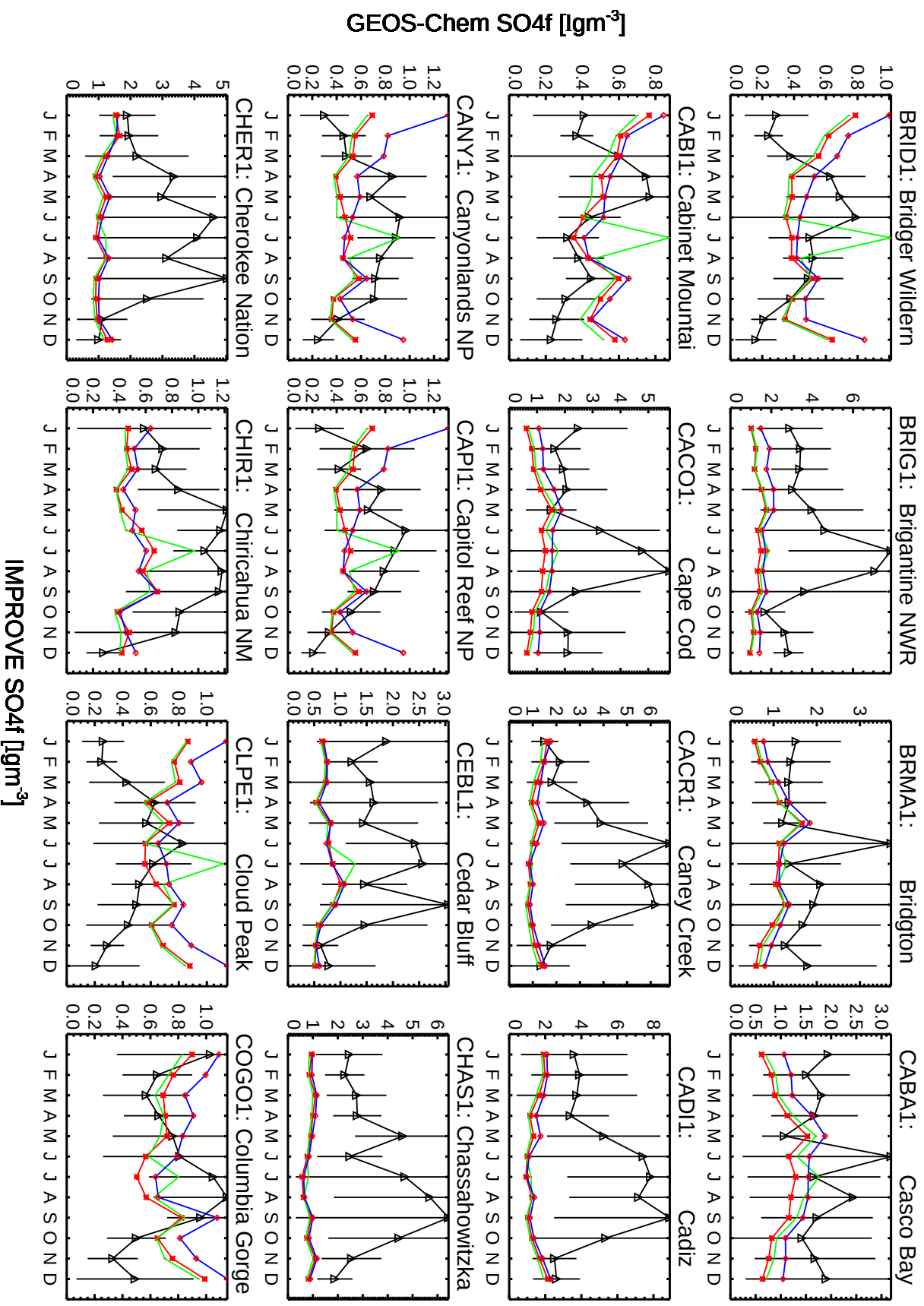


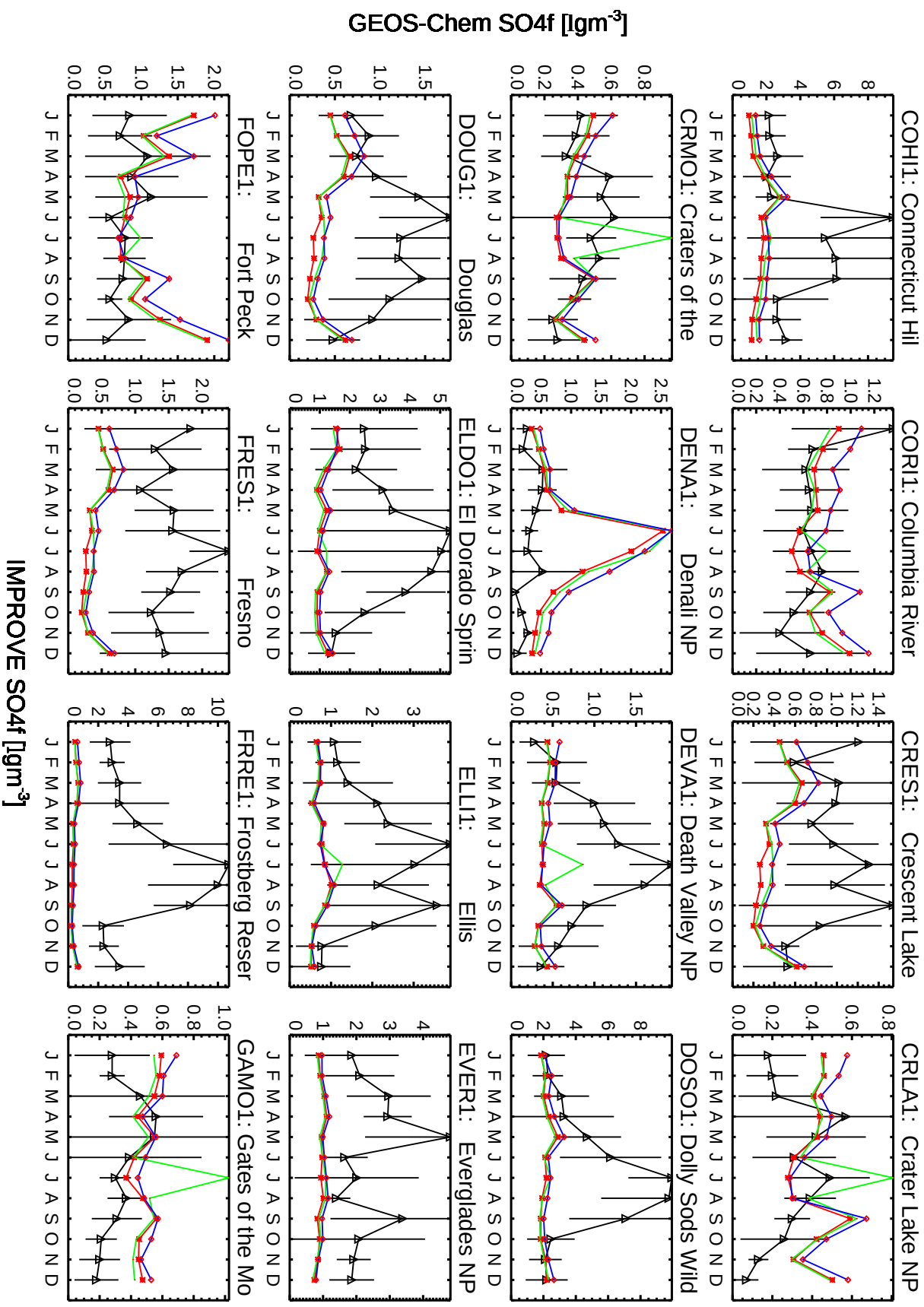
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



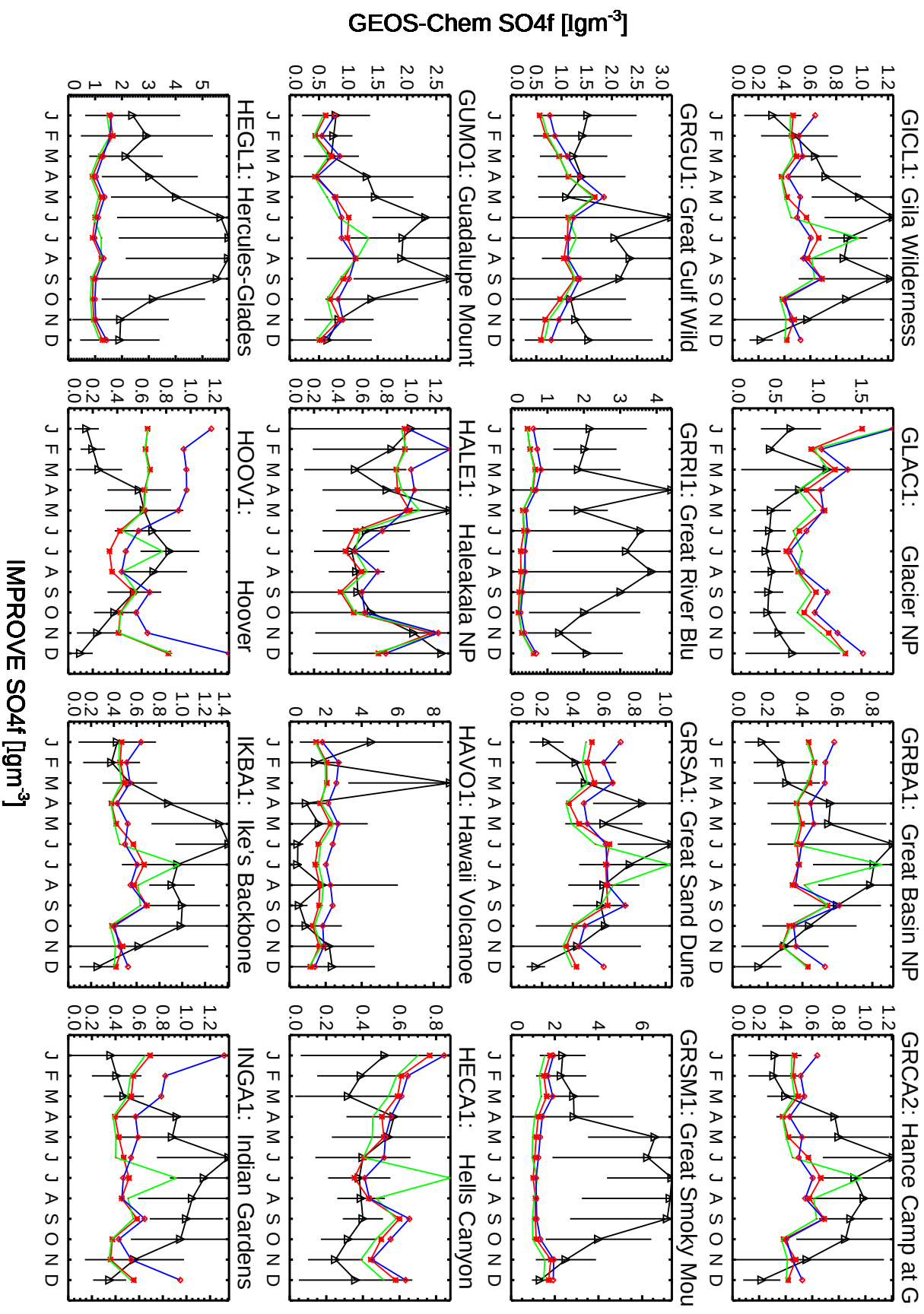
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



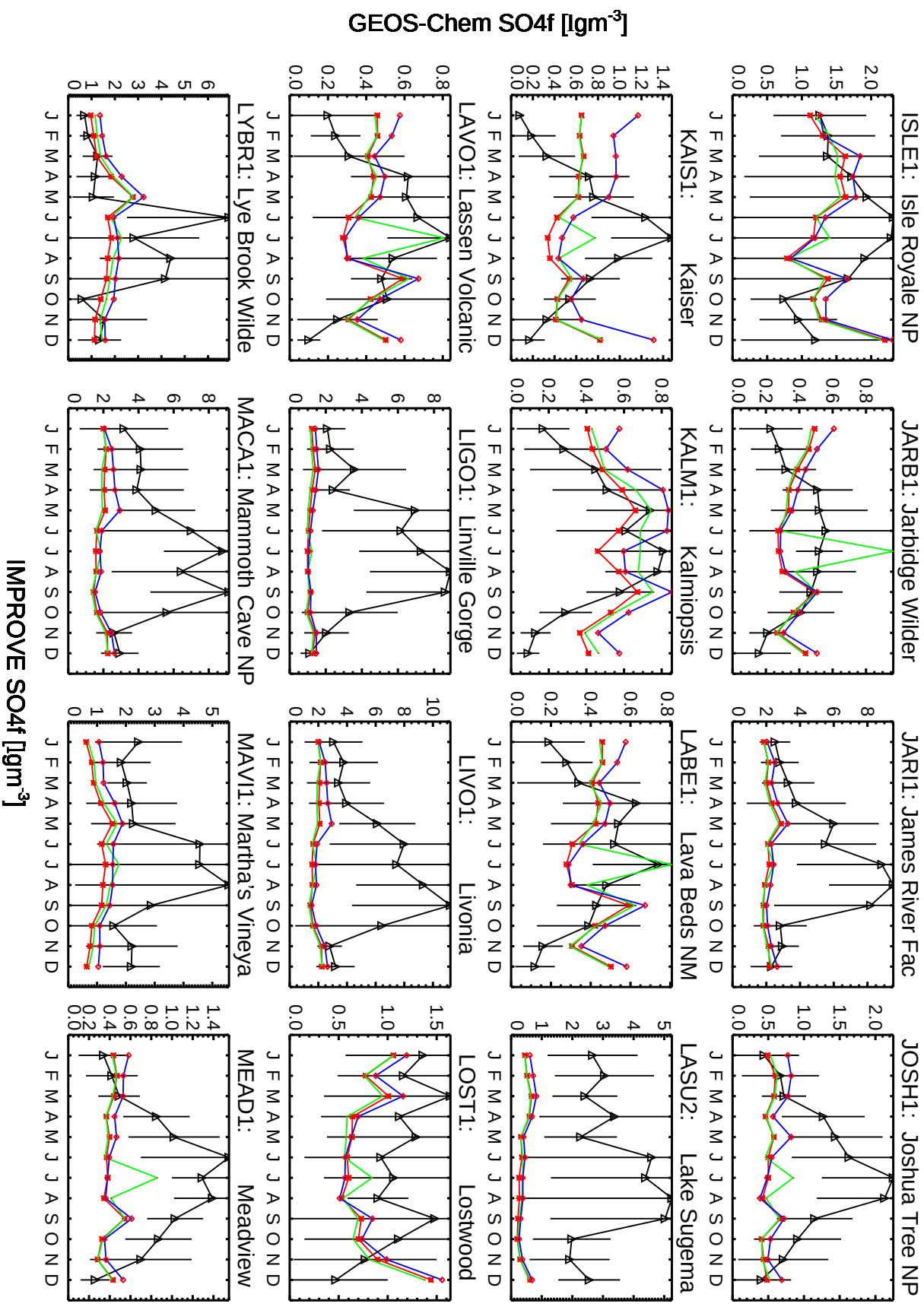
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



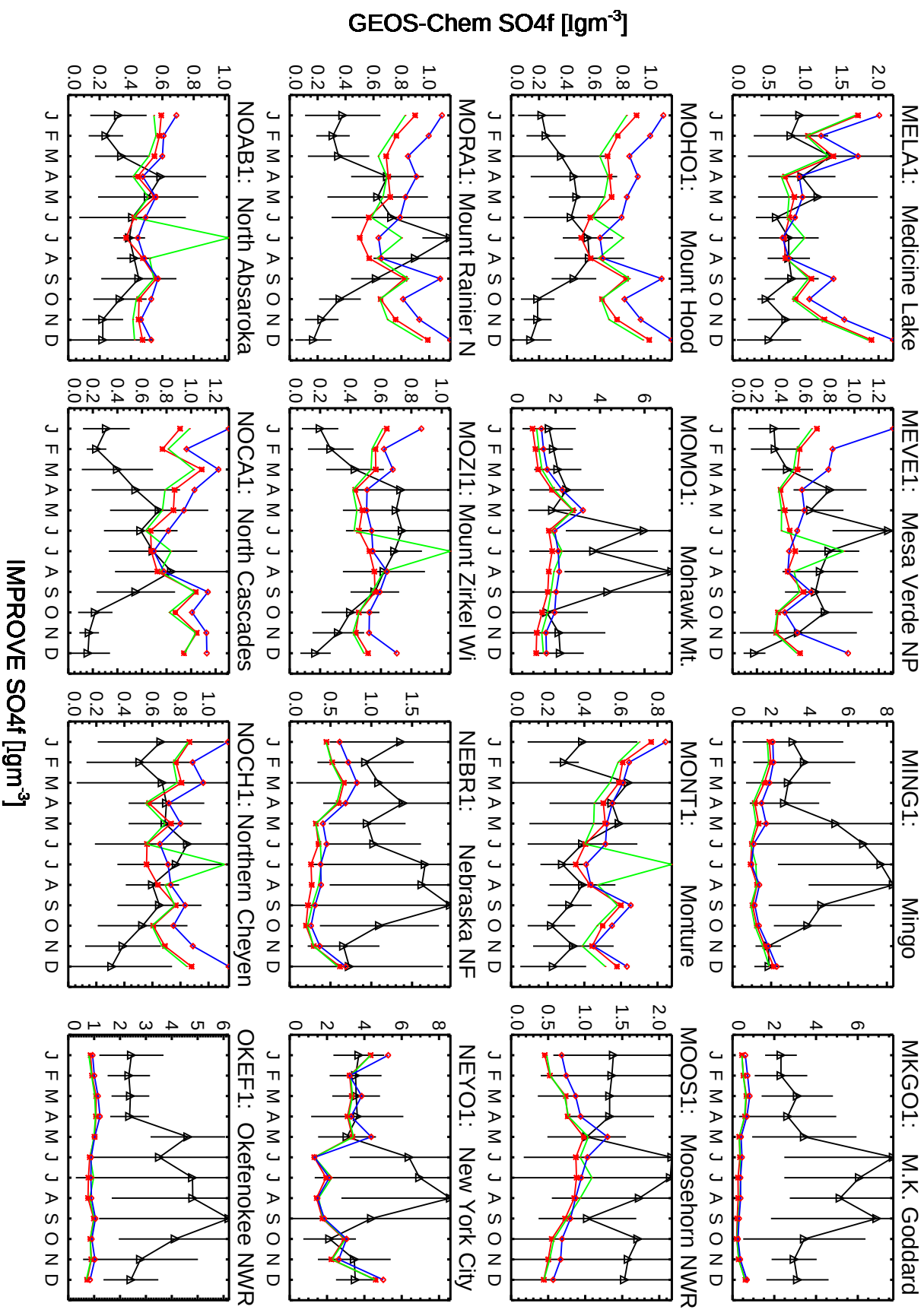
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

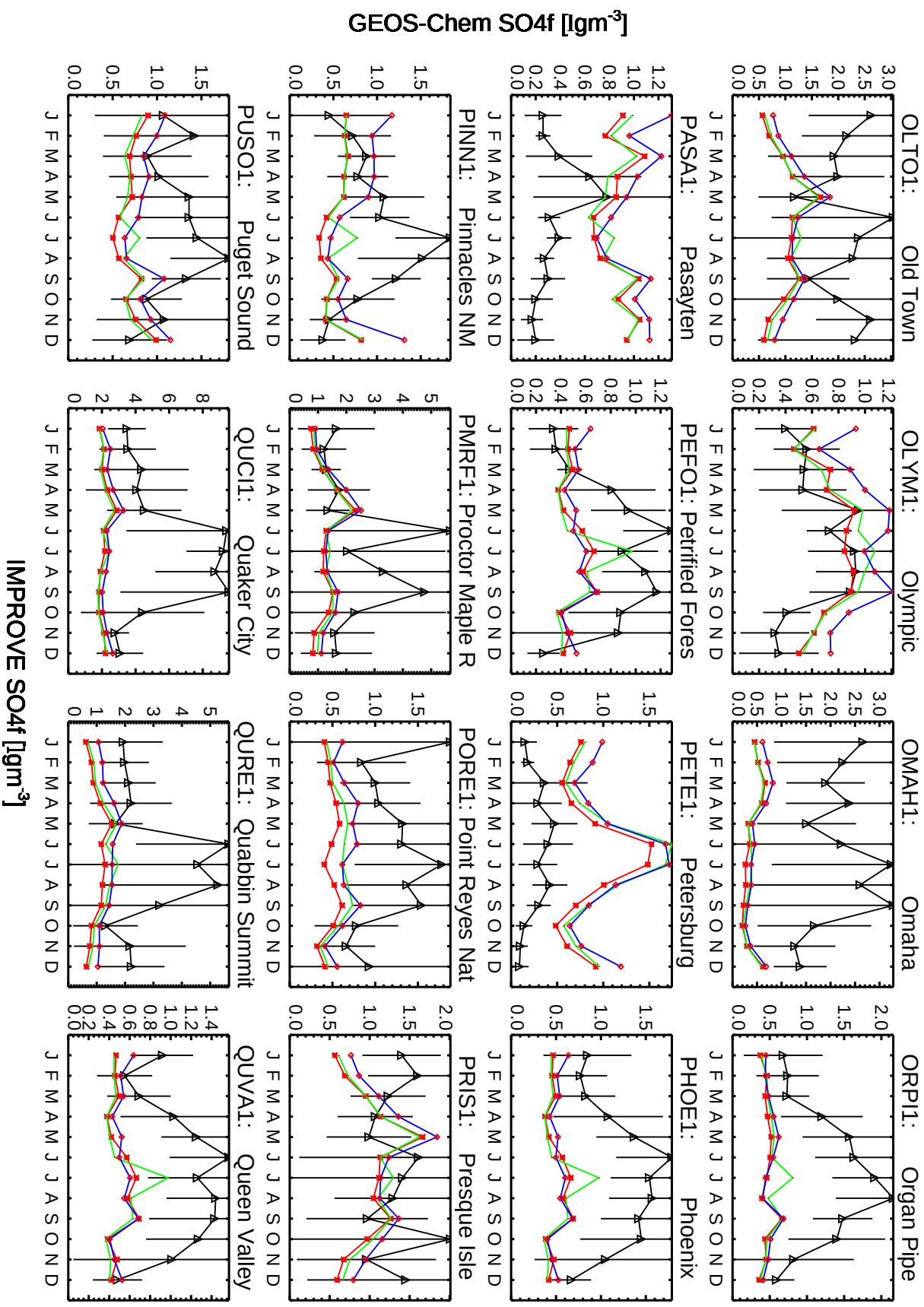


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

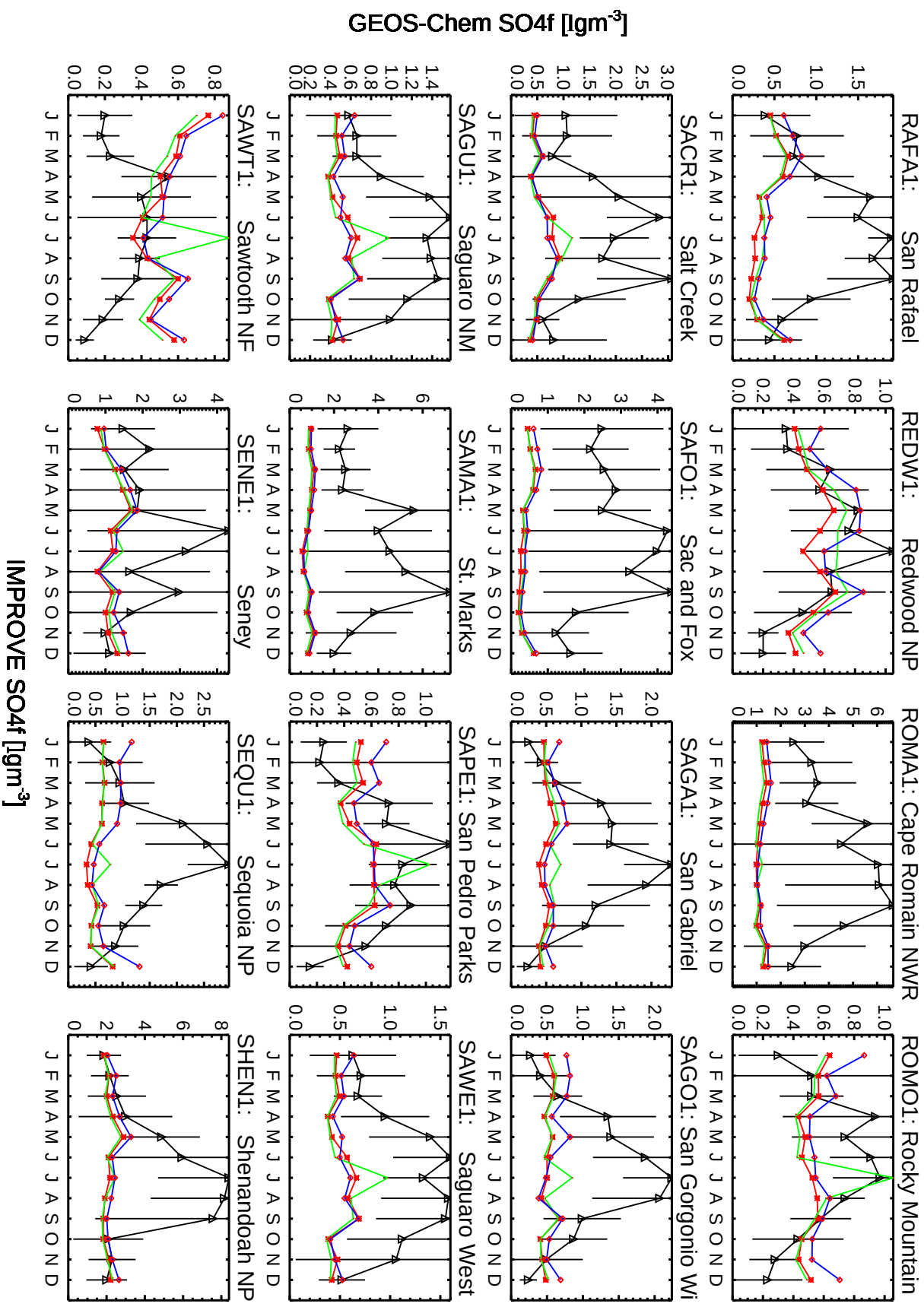




Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

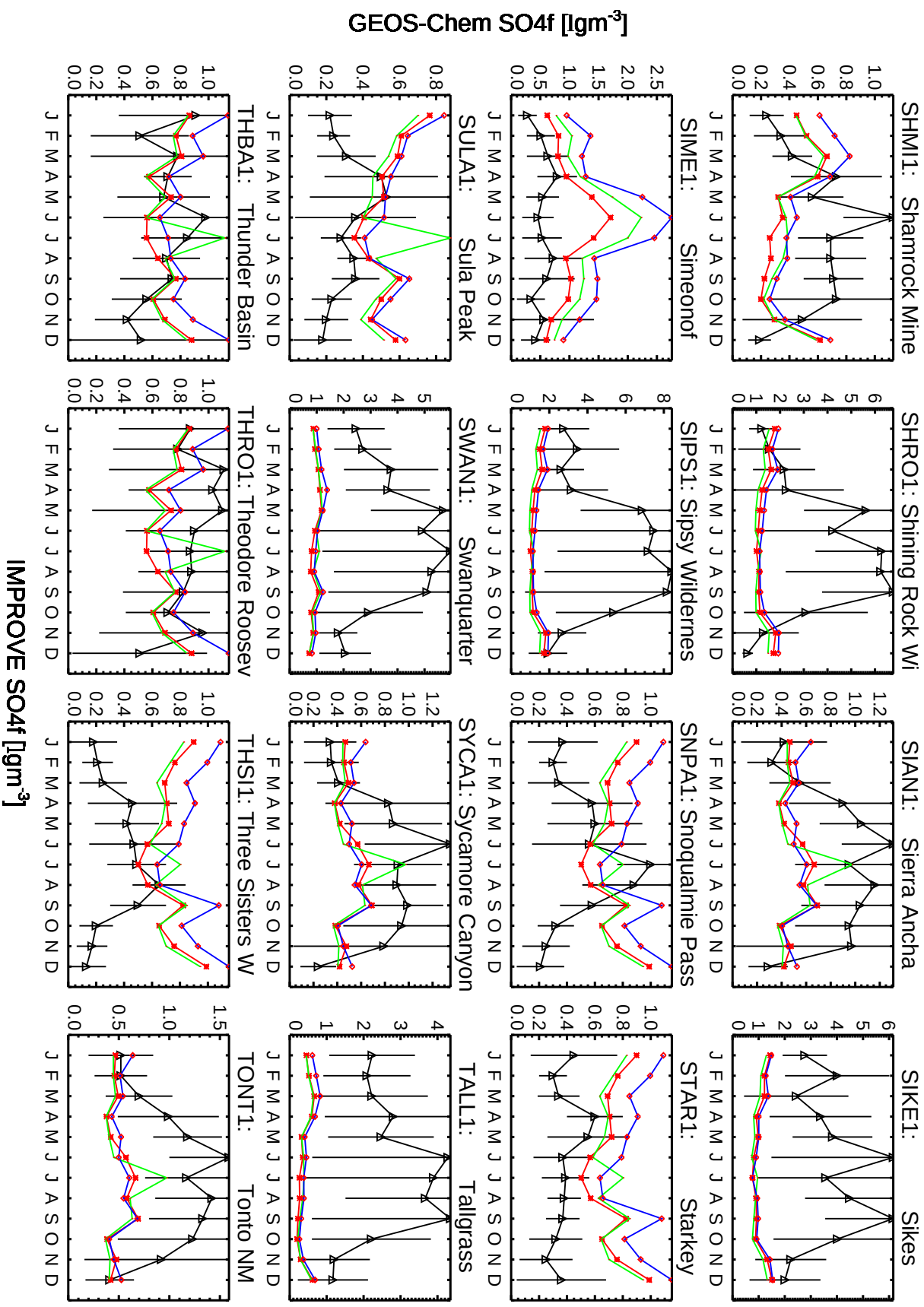


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

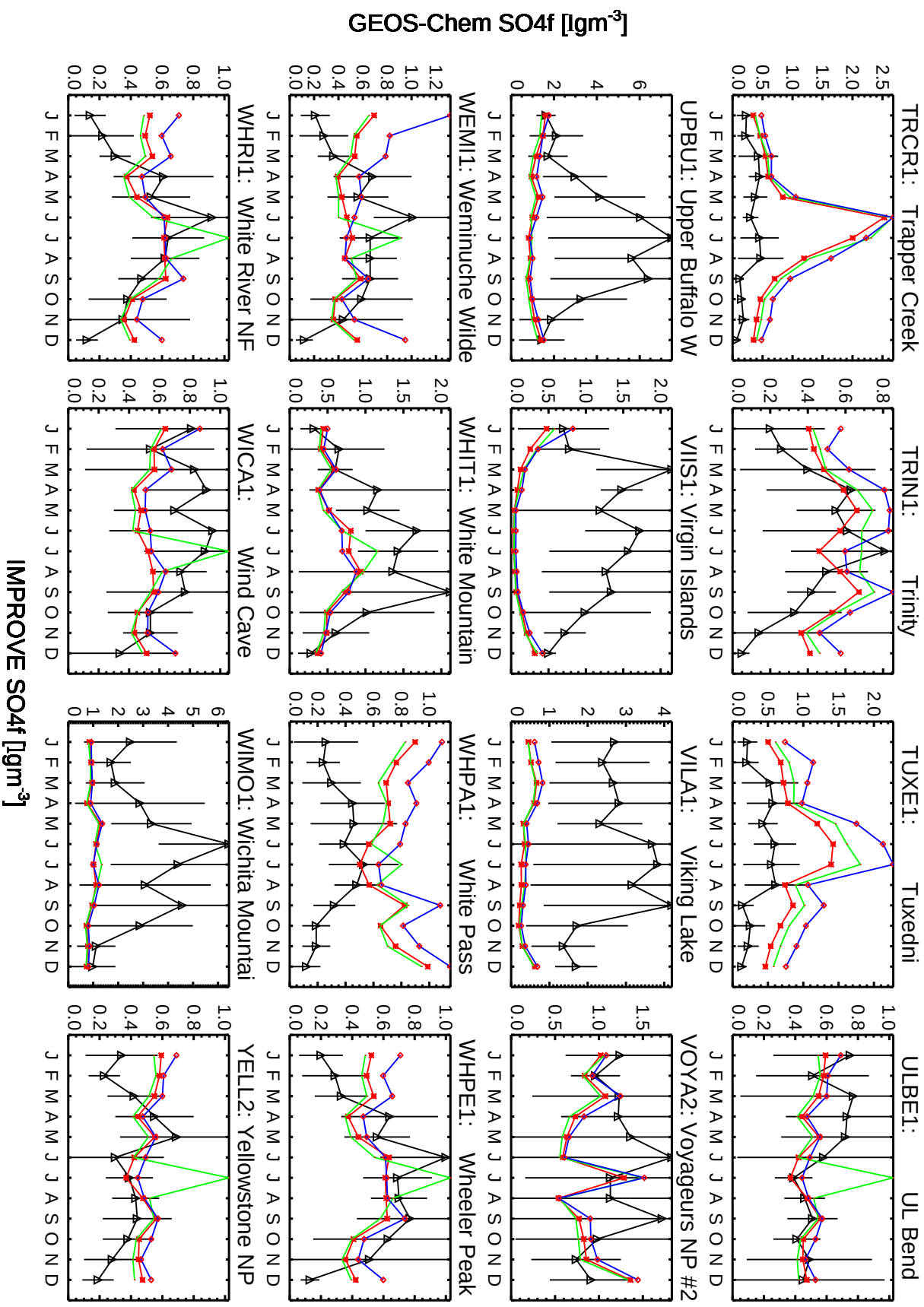




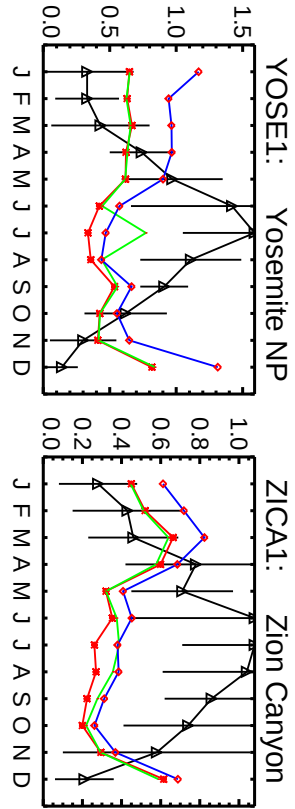
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



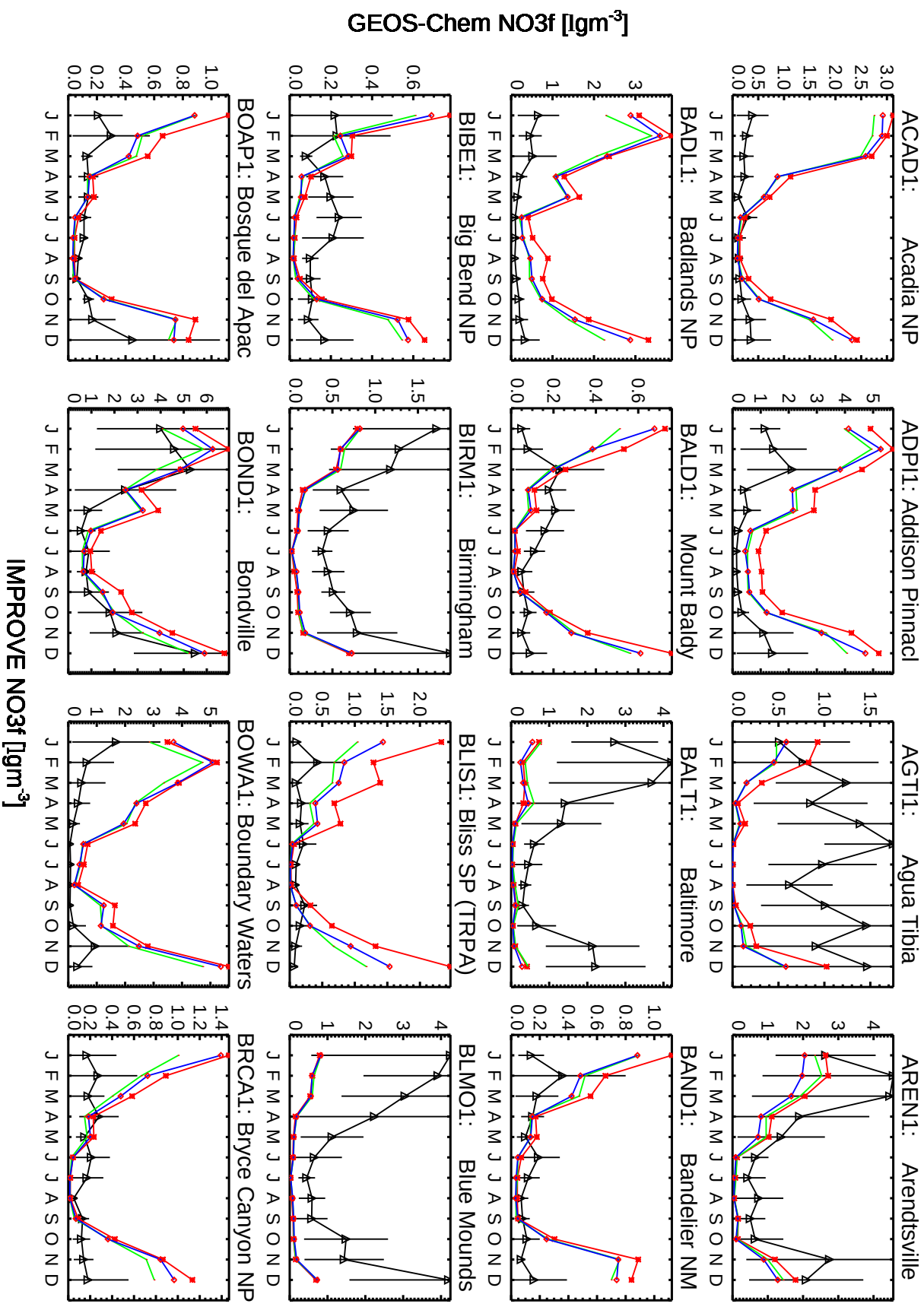
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



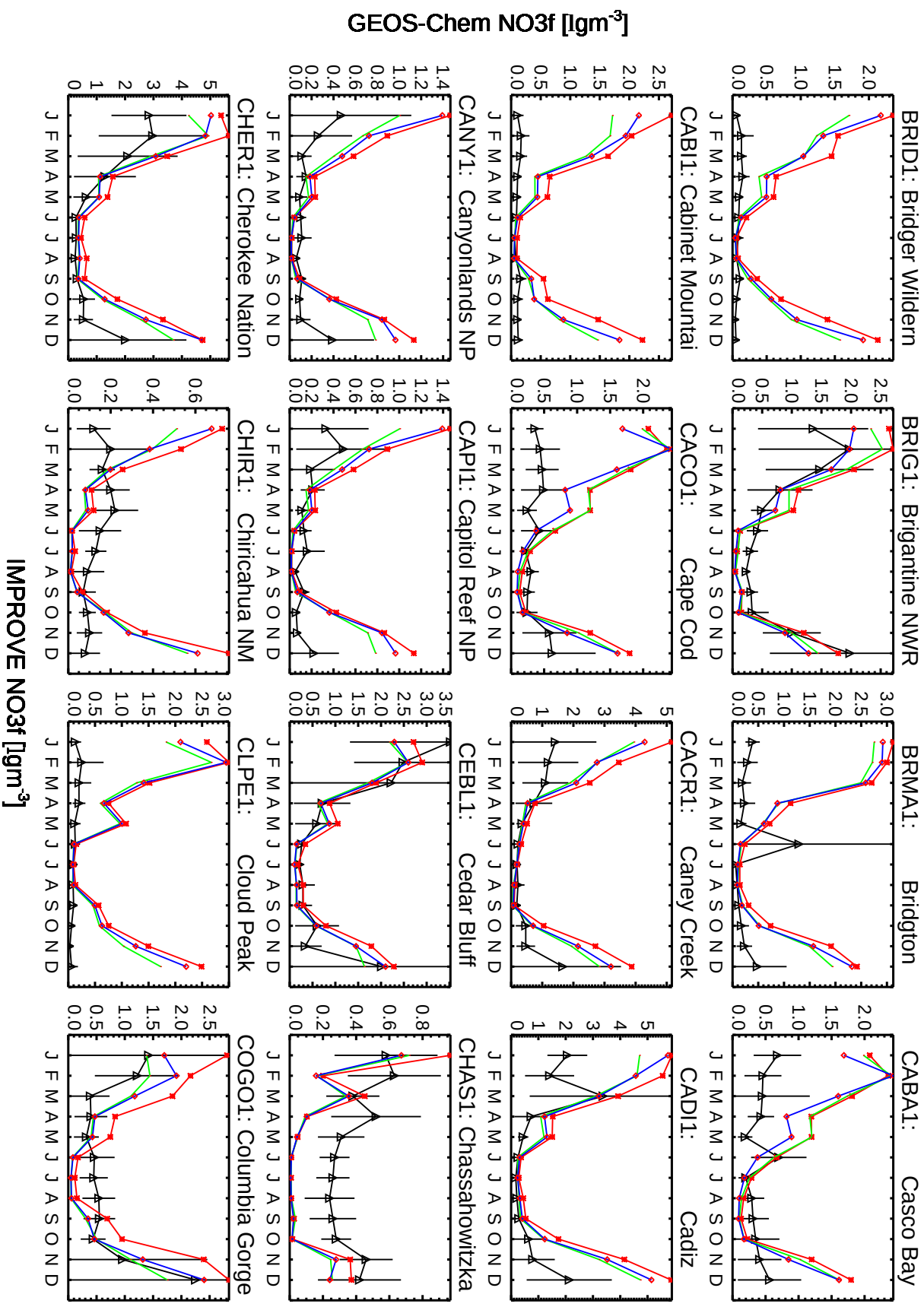
GEOS-Chem SO4f [ $\mu\text{gm}^{-3}$ ]

IMPROVE SO4f [ $\mu\text{gm}^{-3}$ ]

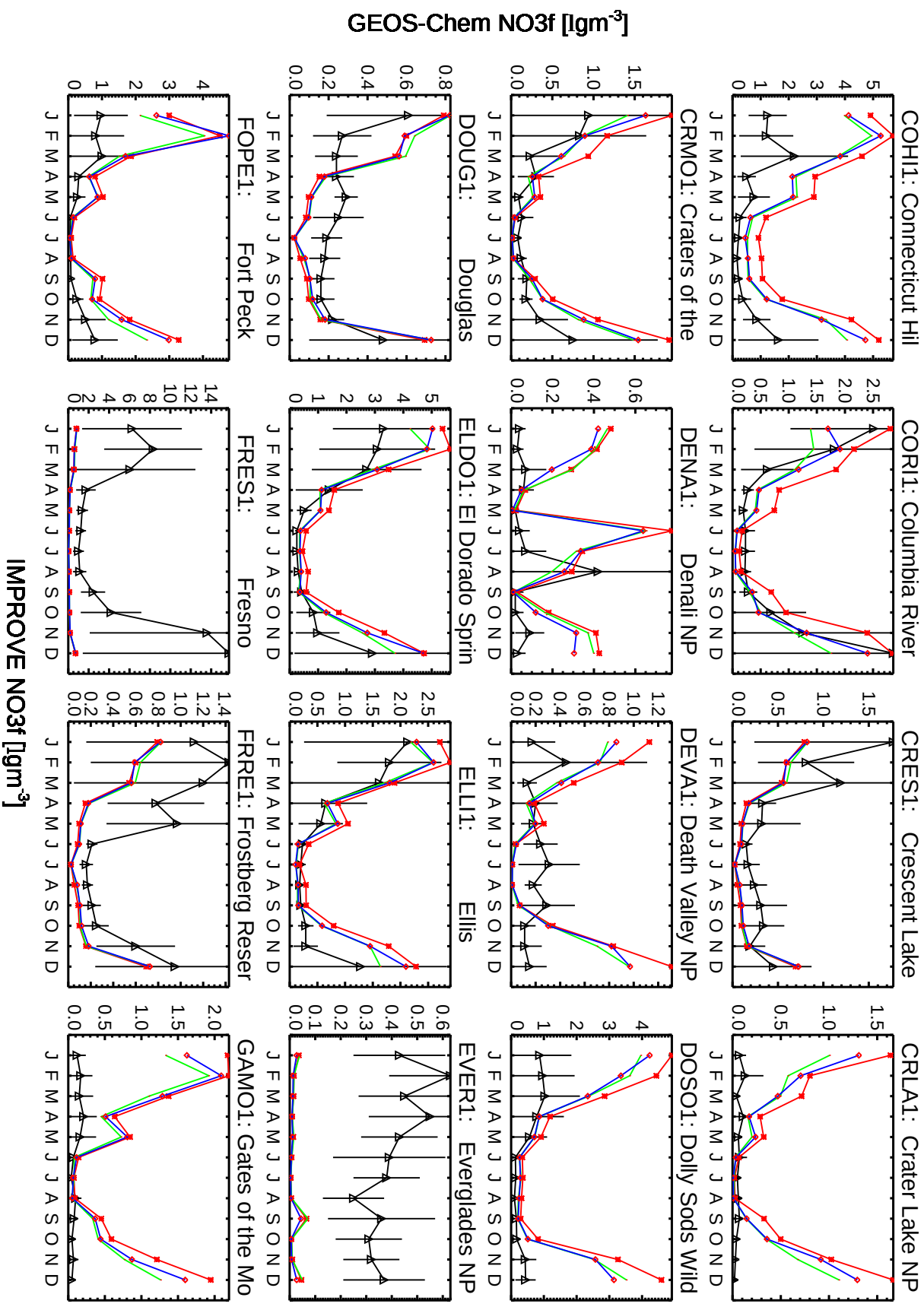
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

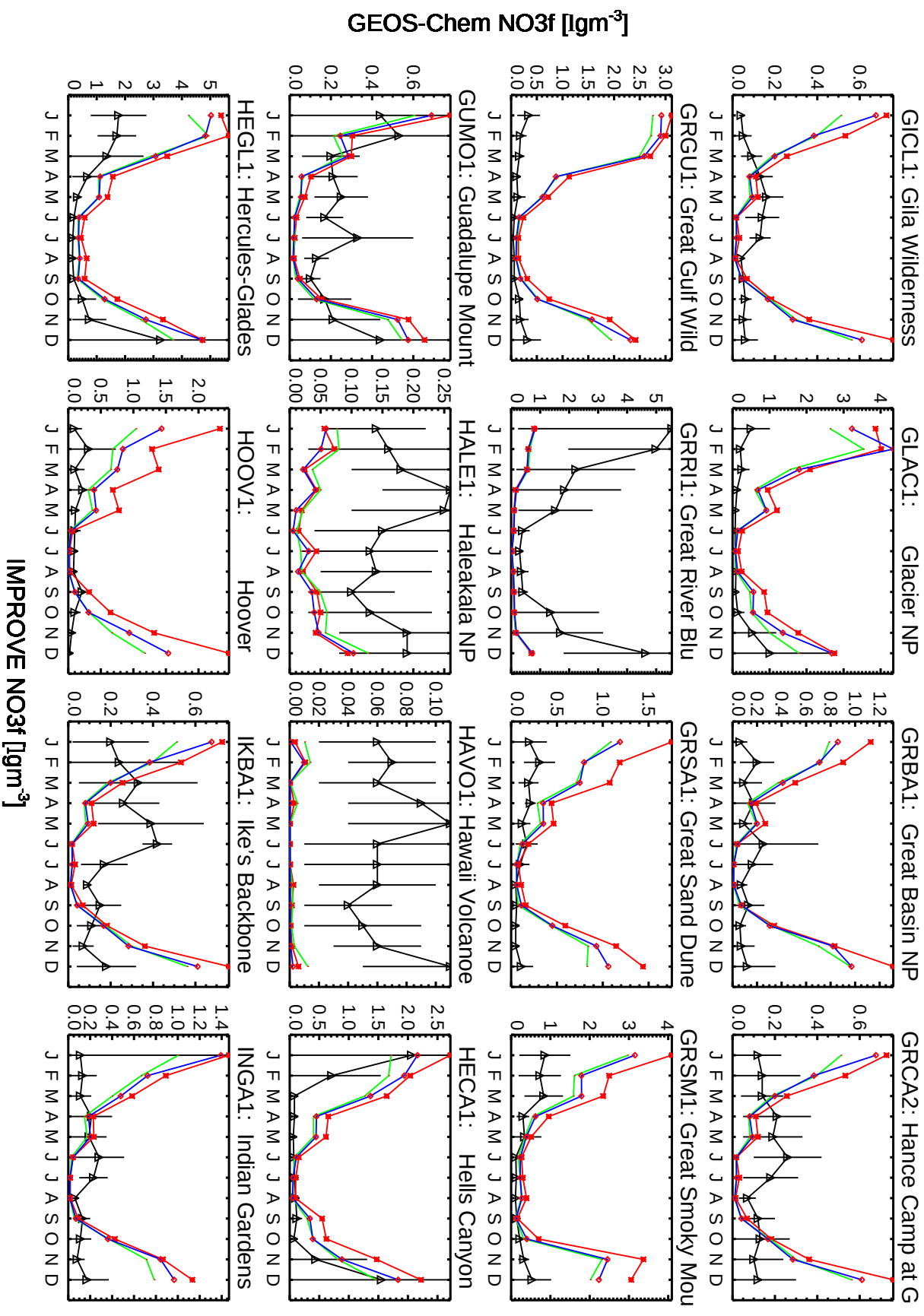


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

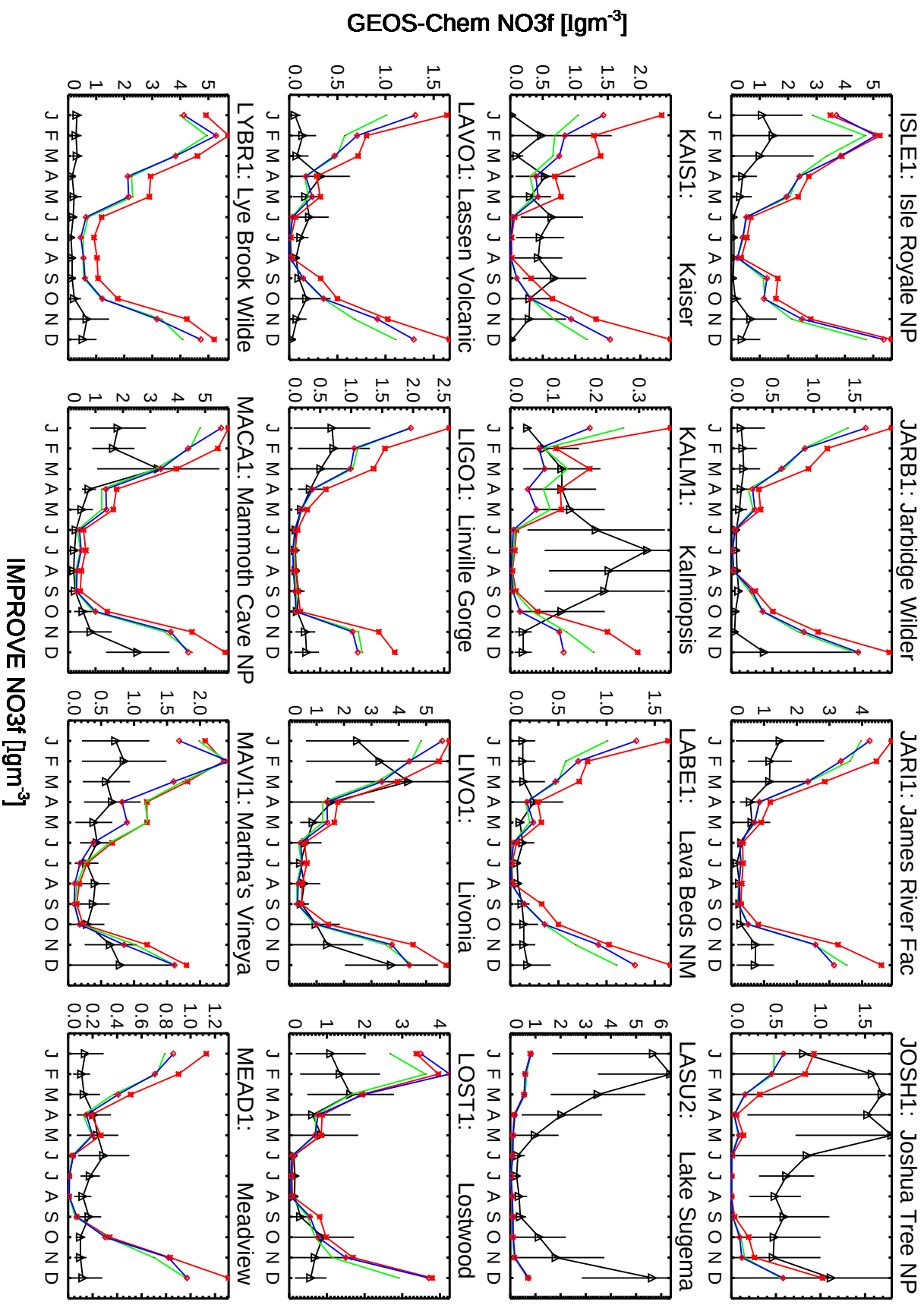




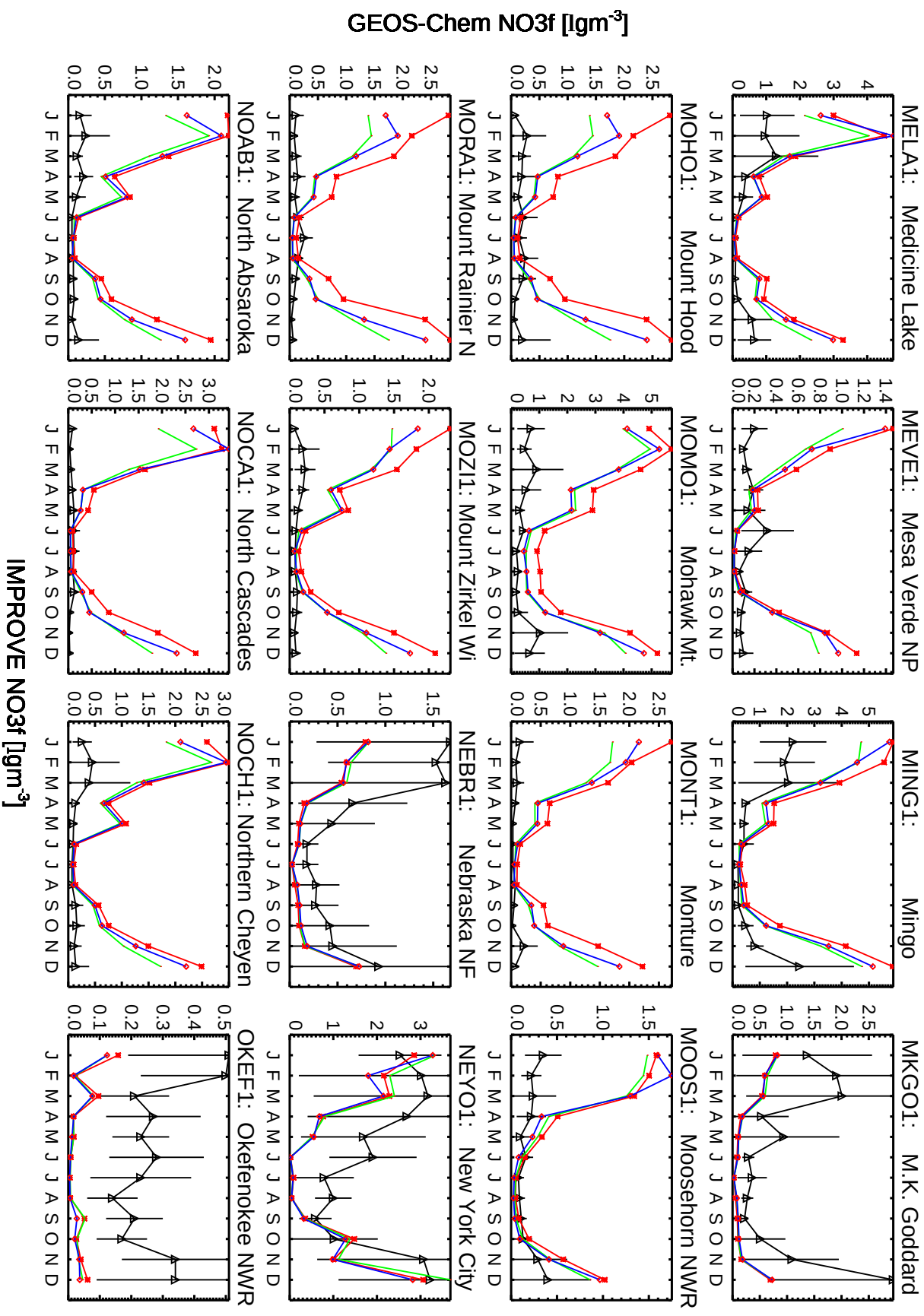
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



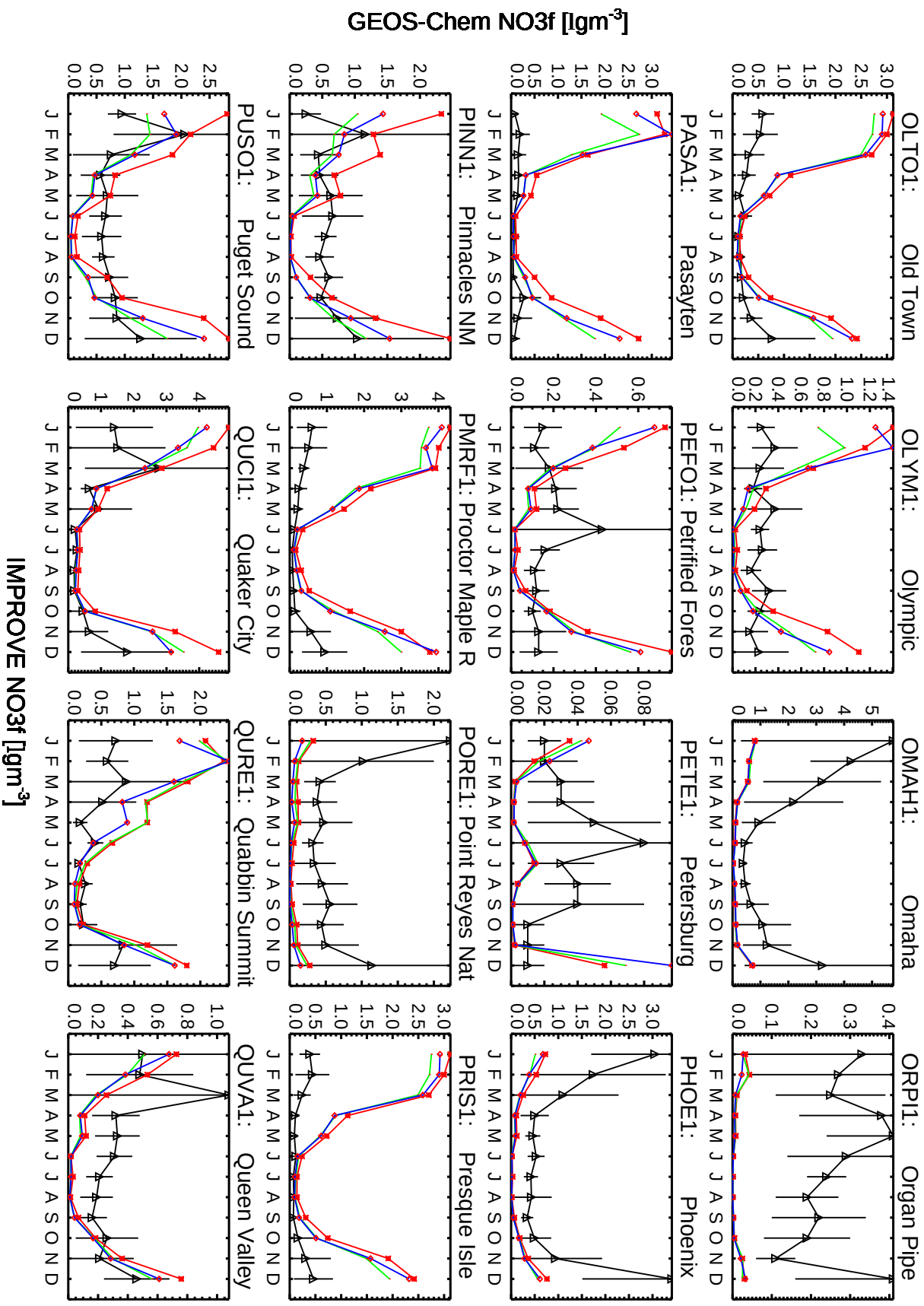
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



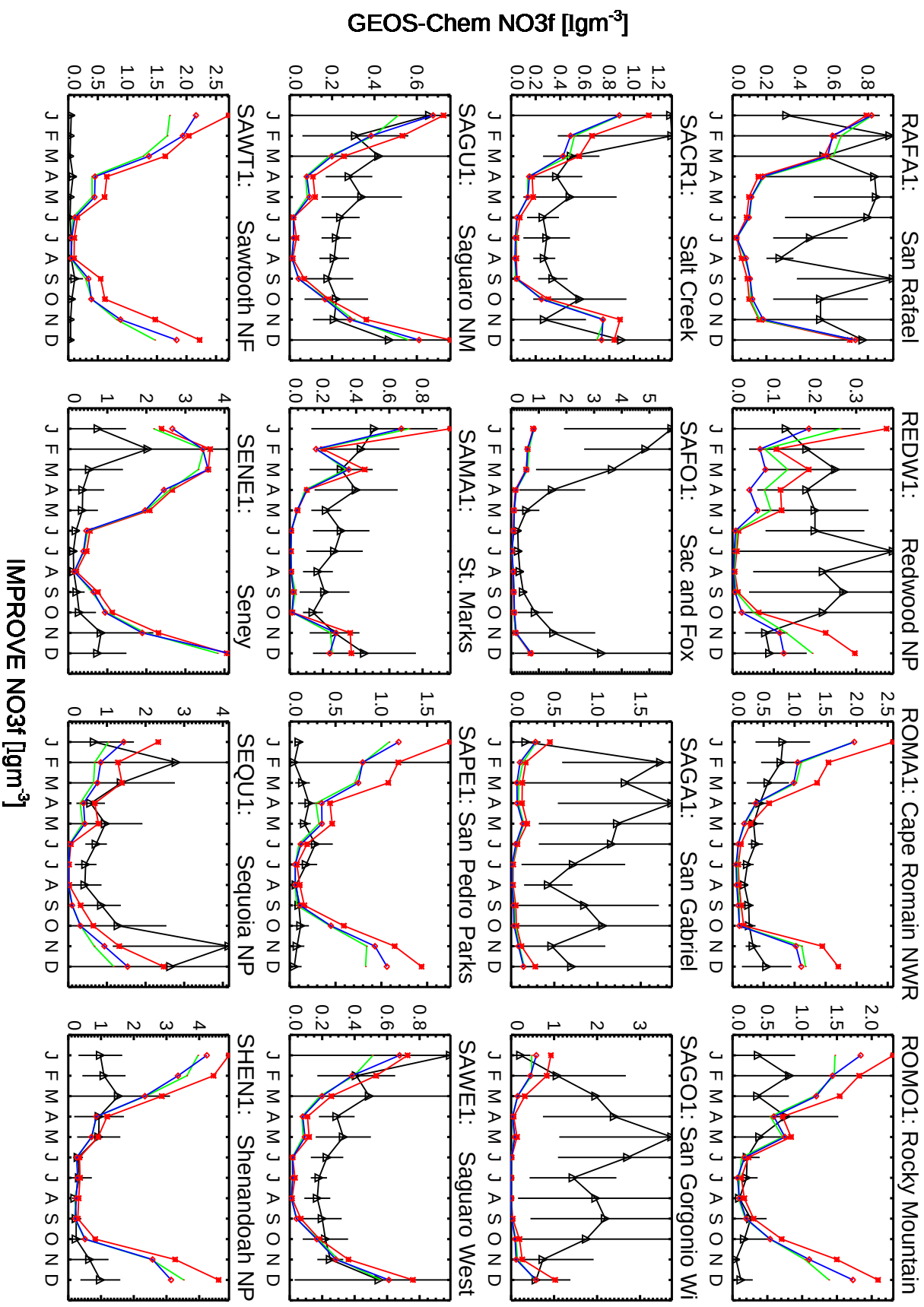
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



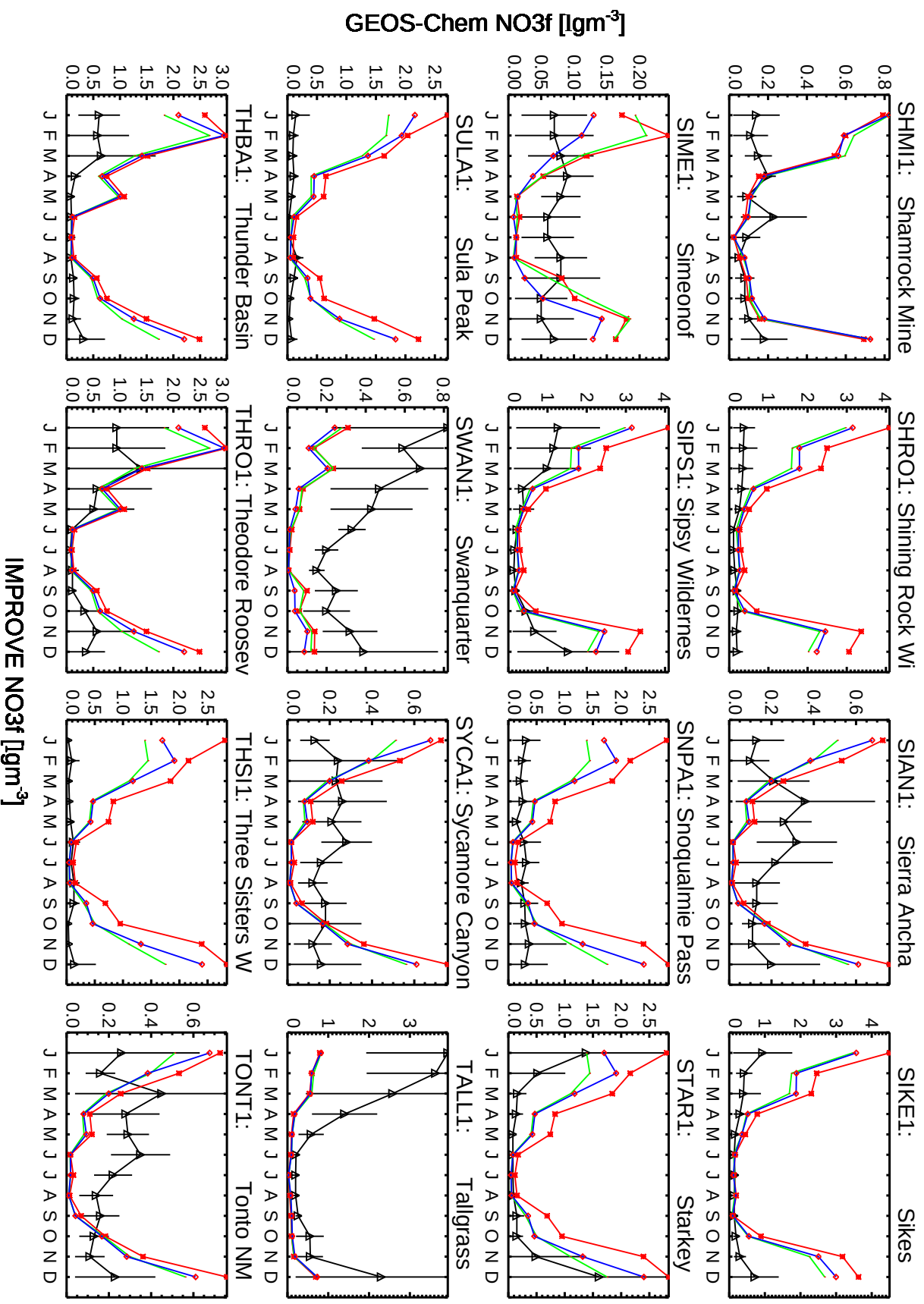
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



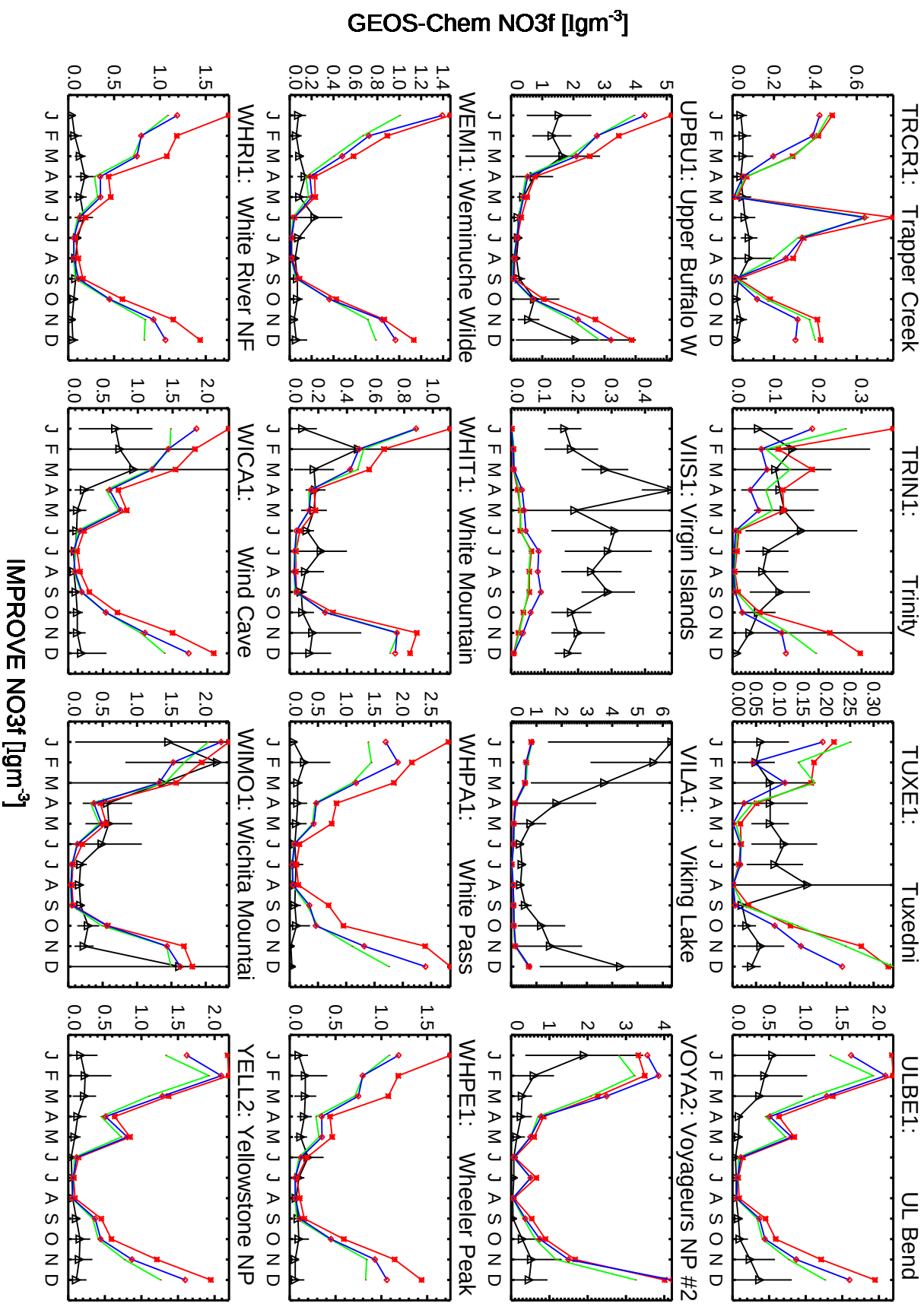
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

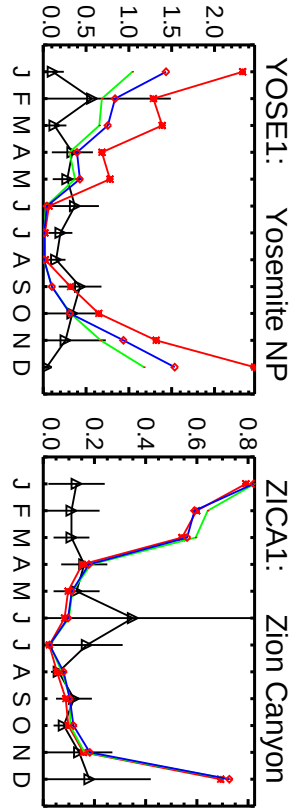


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)





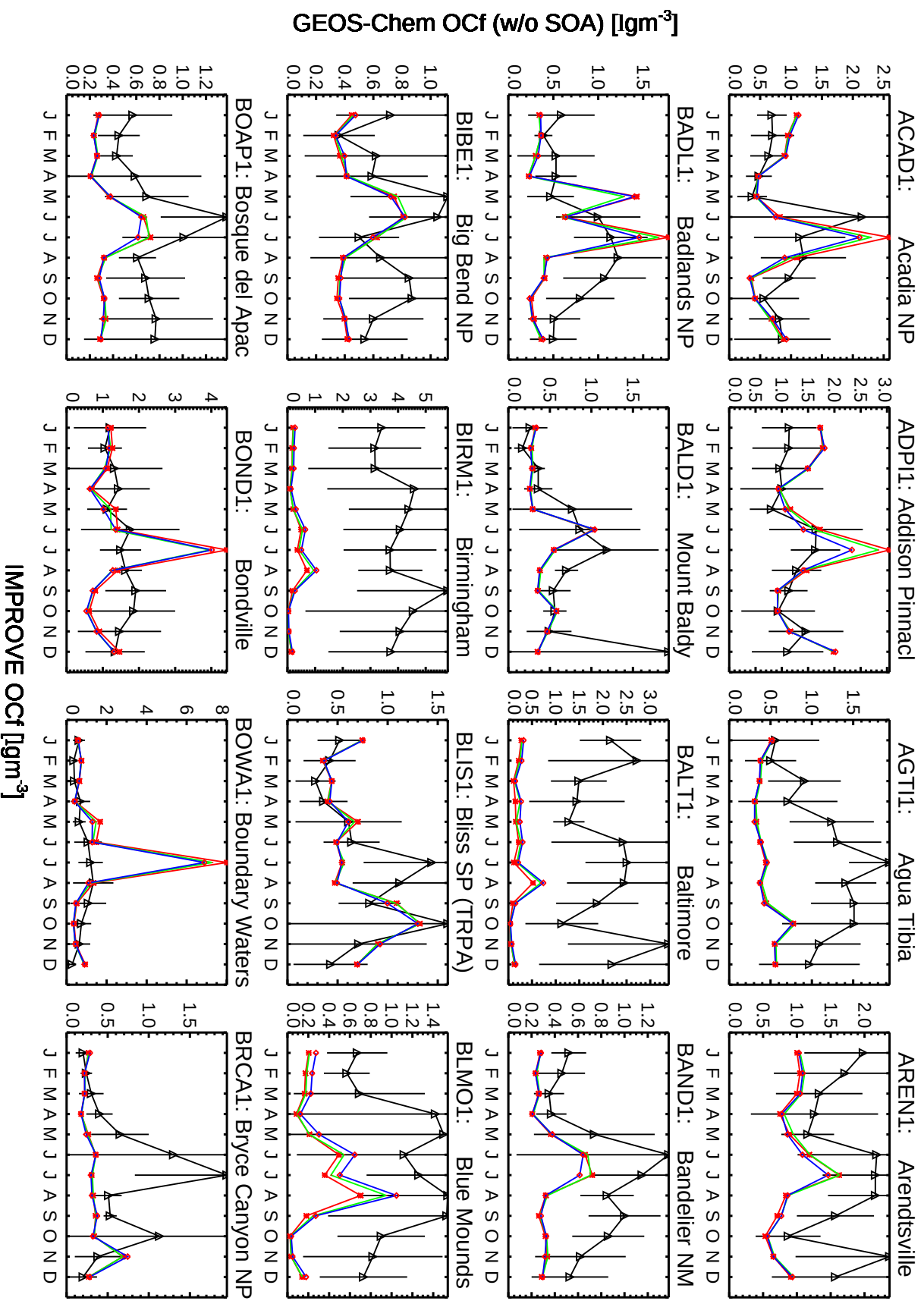
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



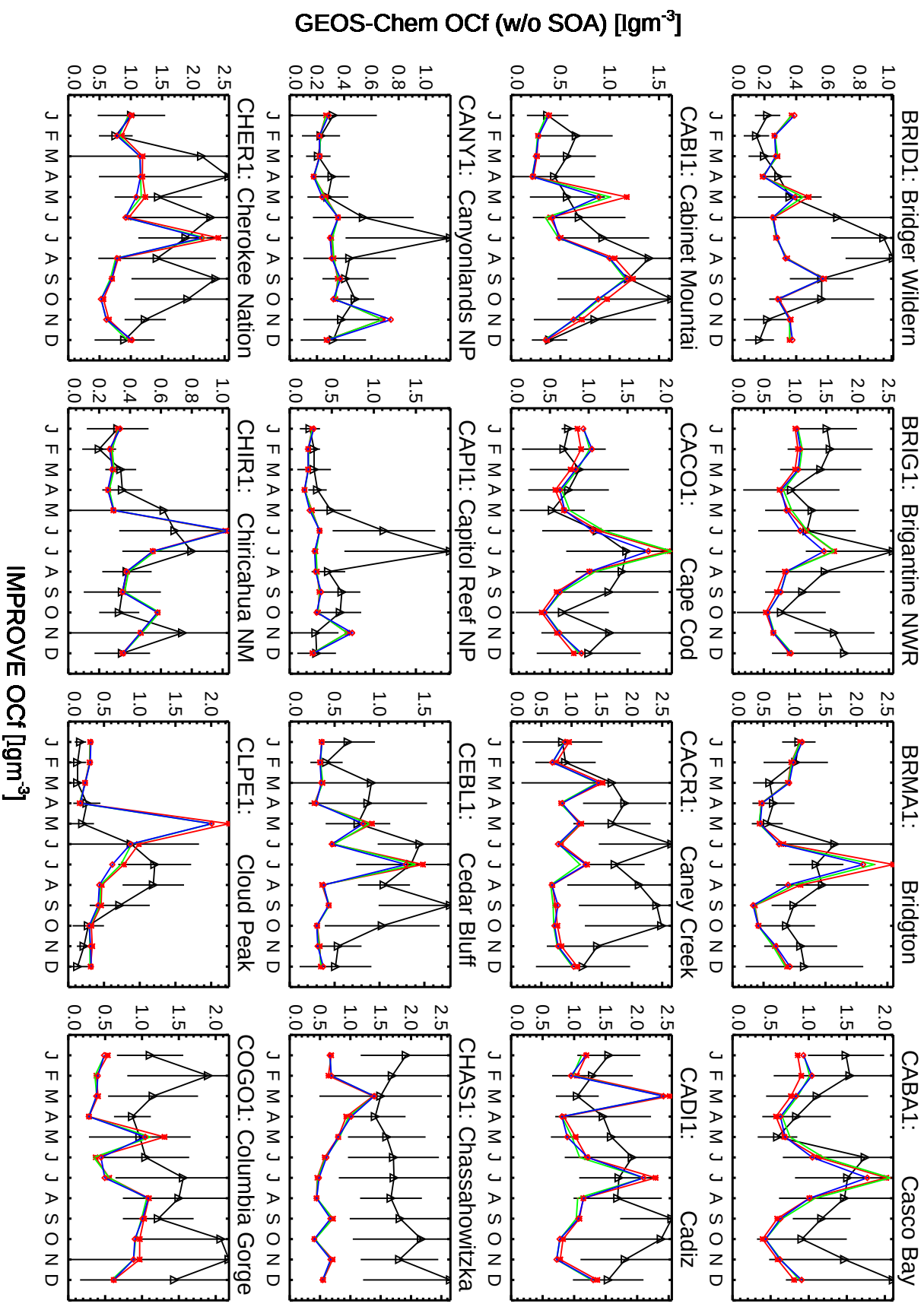
GEOS-Chem NO3f [ $\mu\text{g m}^{-3}$ ]

IMPROVE NO3f [ $\mu\text{g m}^{-3}$ ]

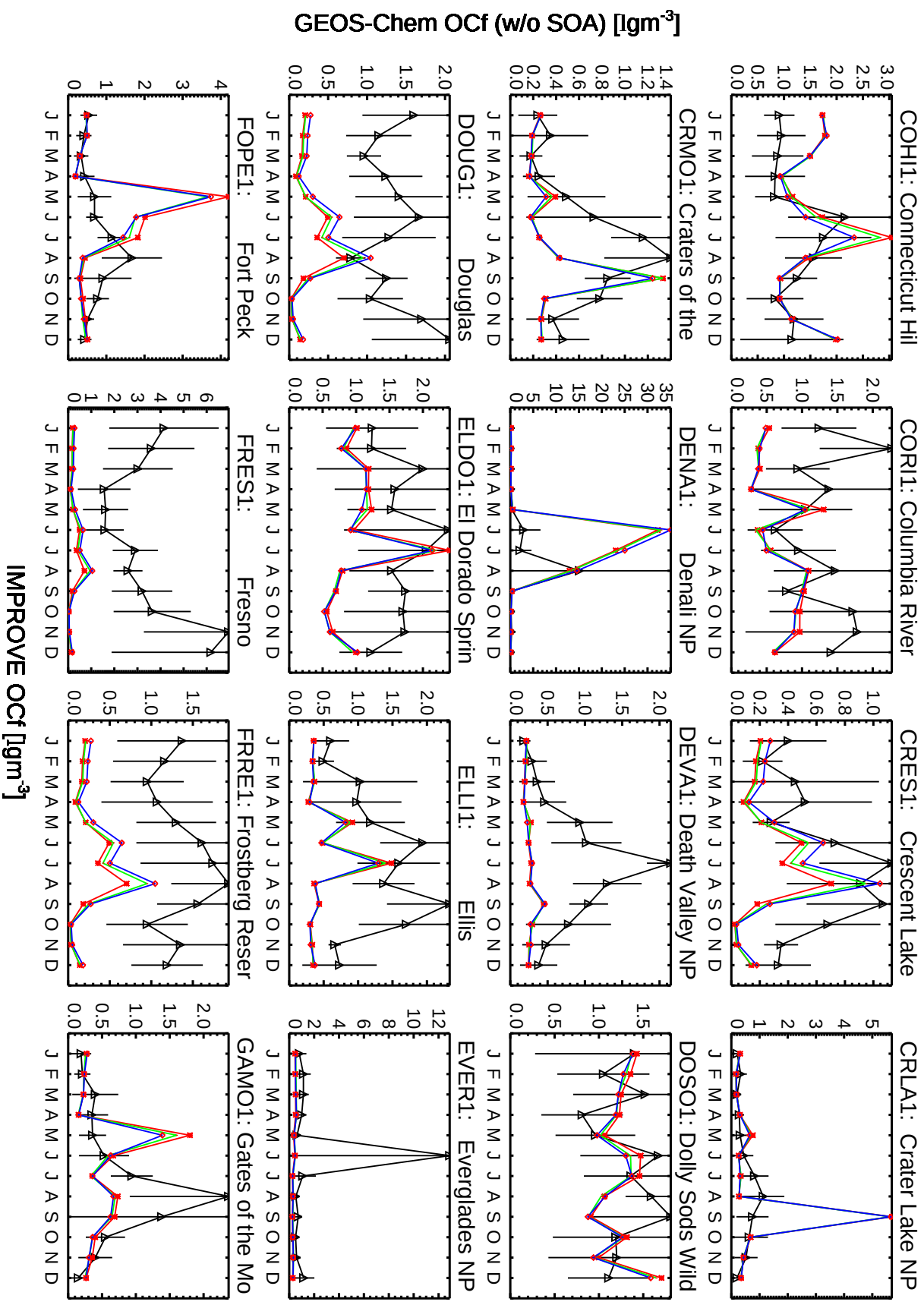
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



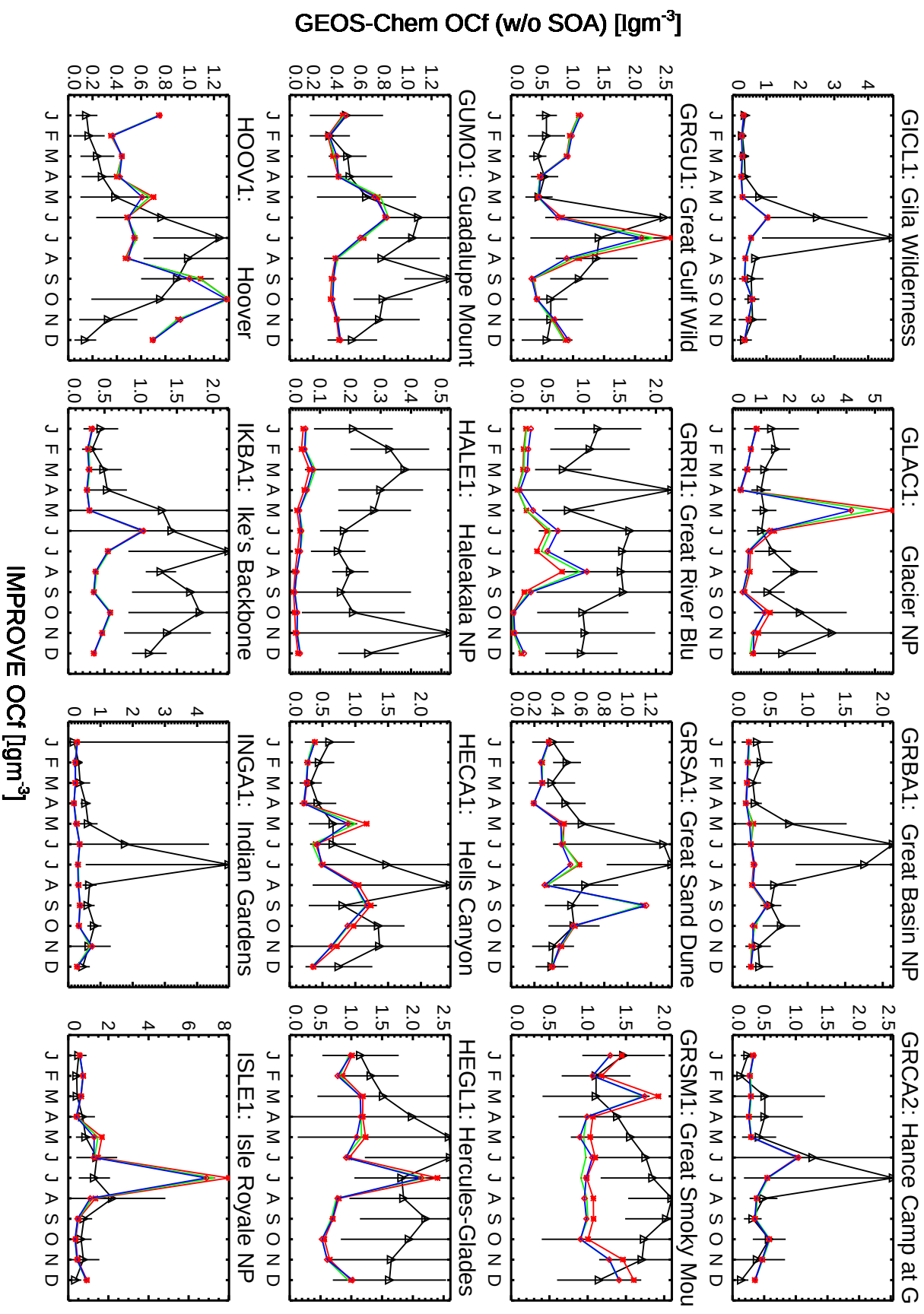
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



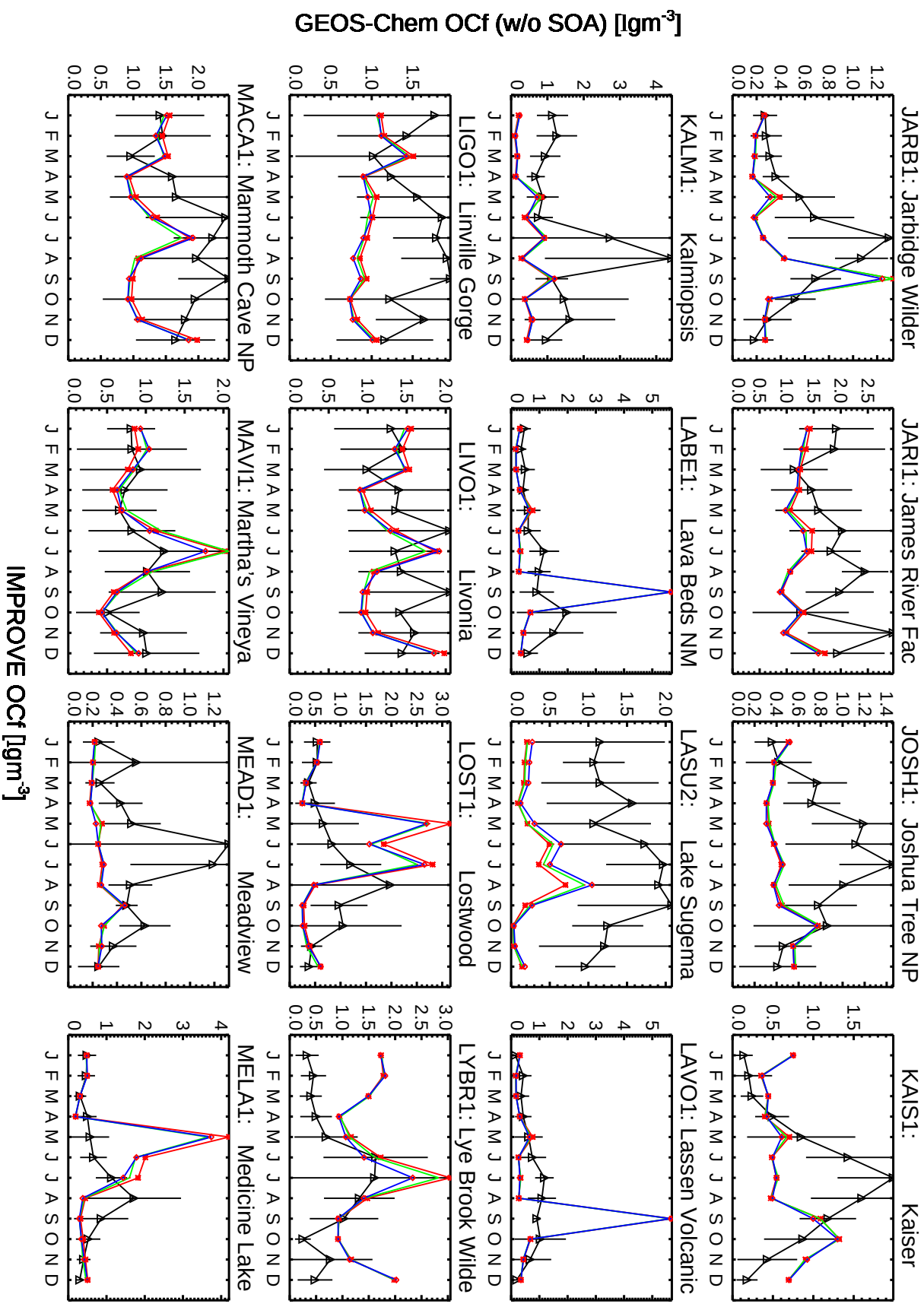
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



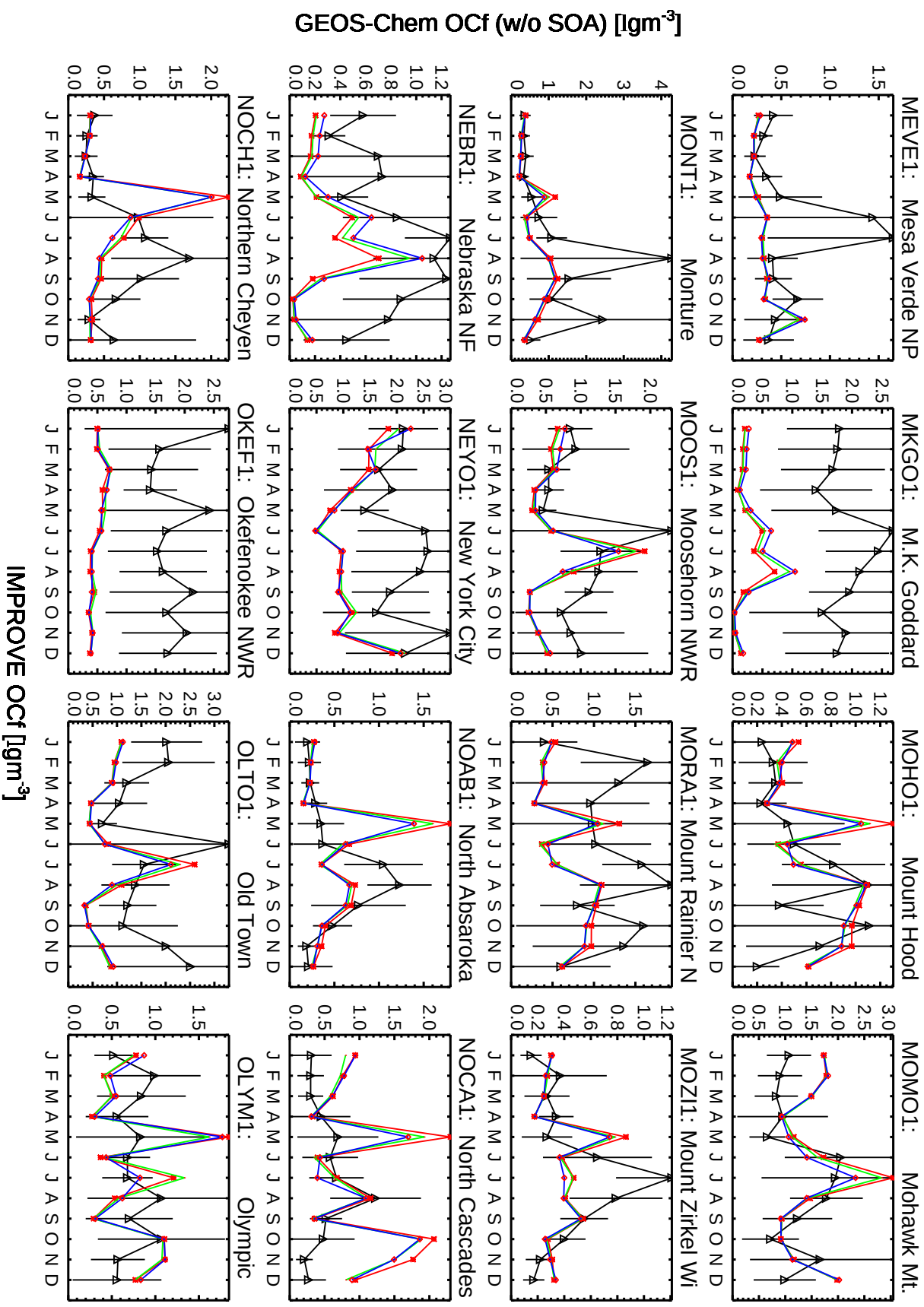
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

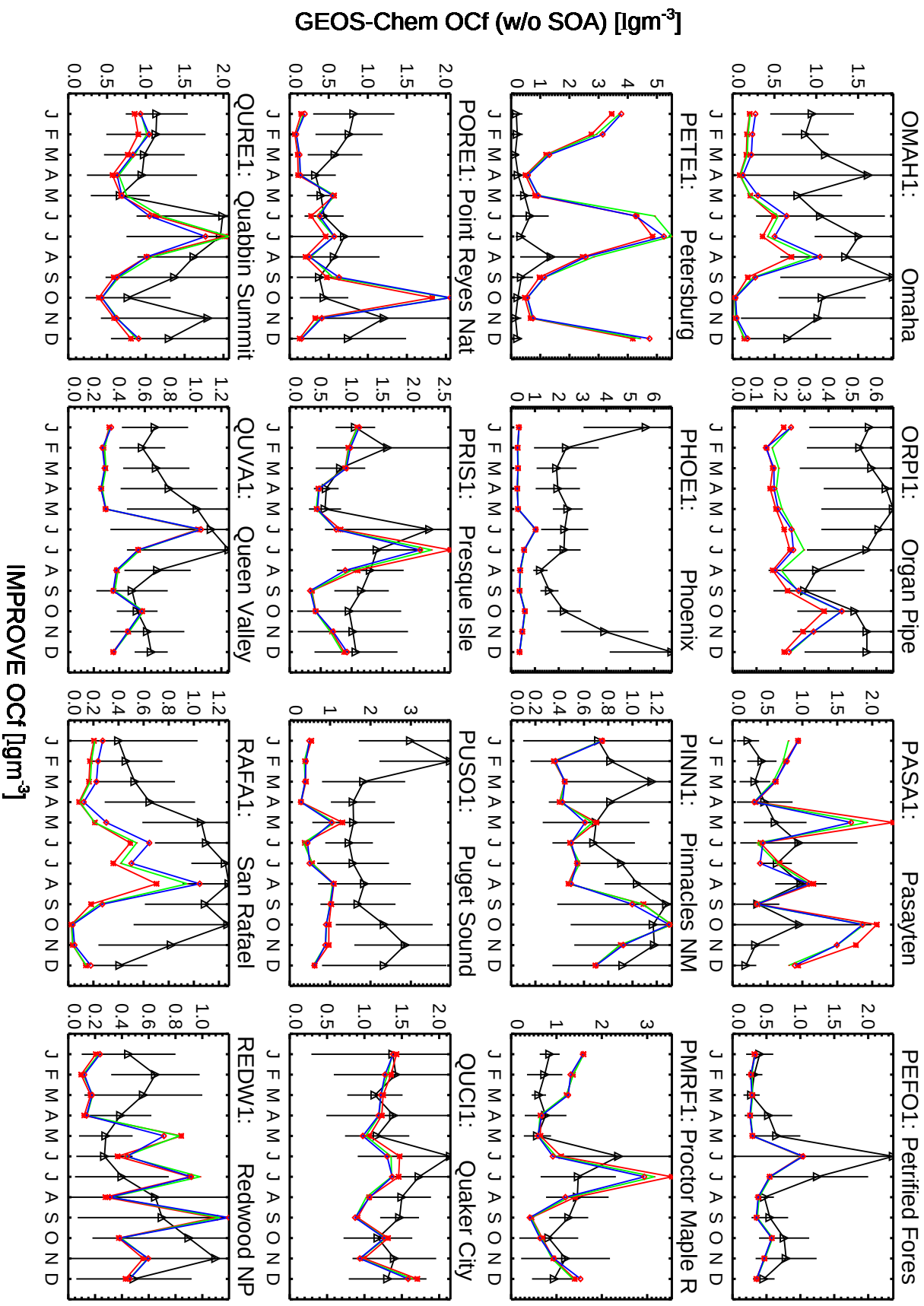


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

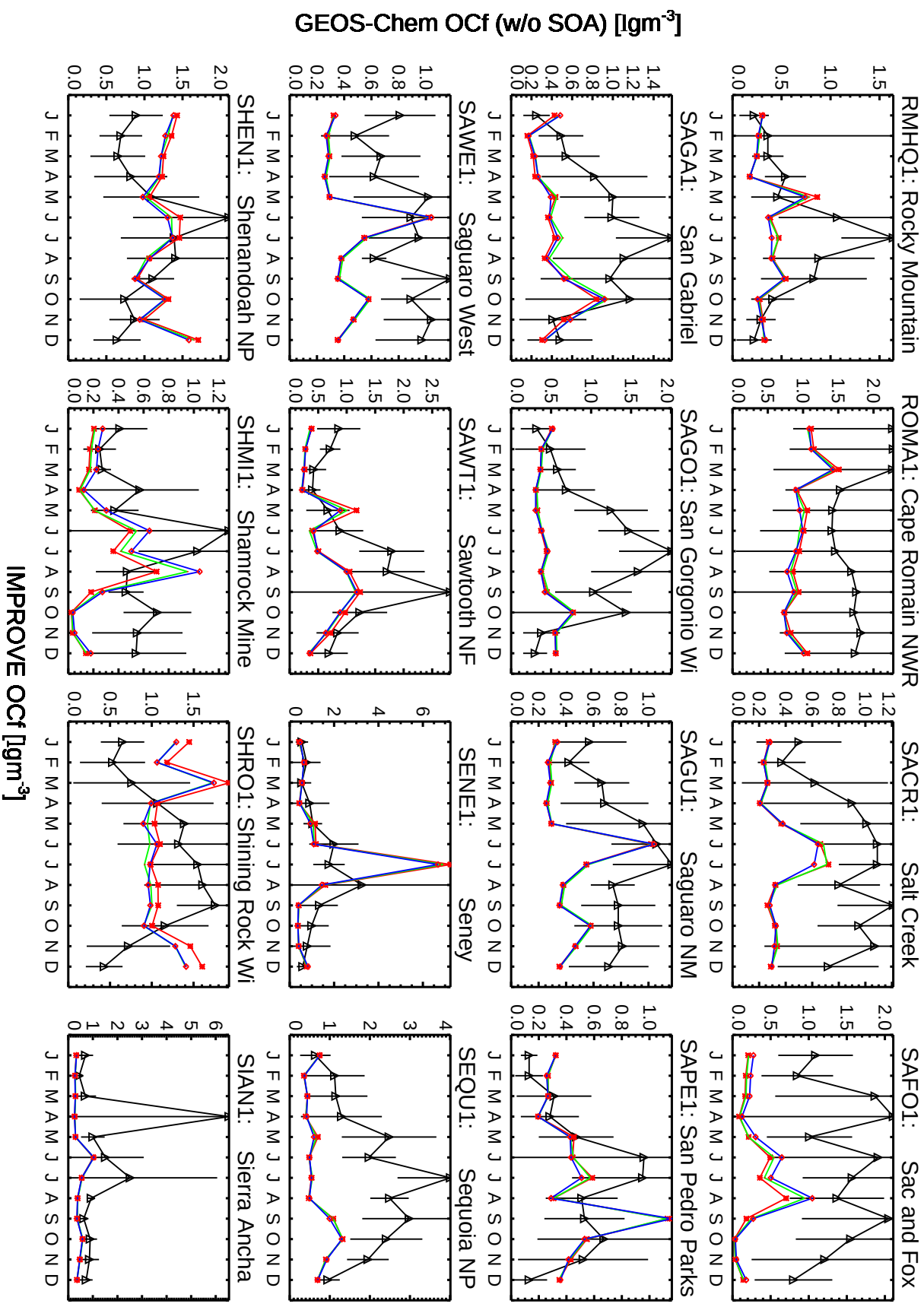




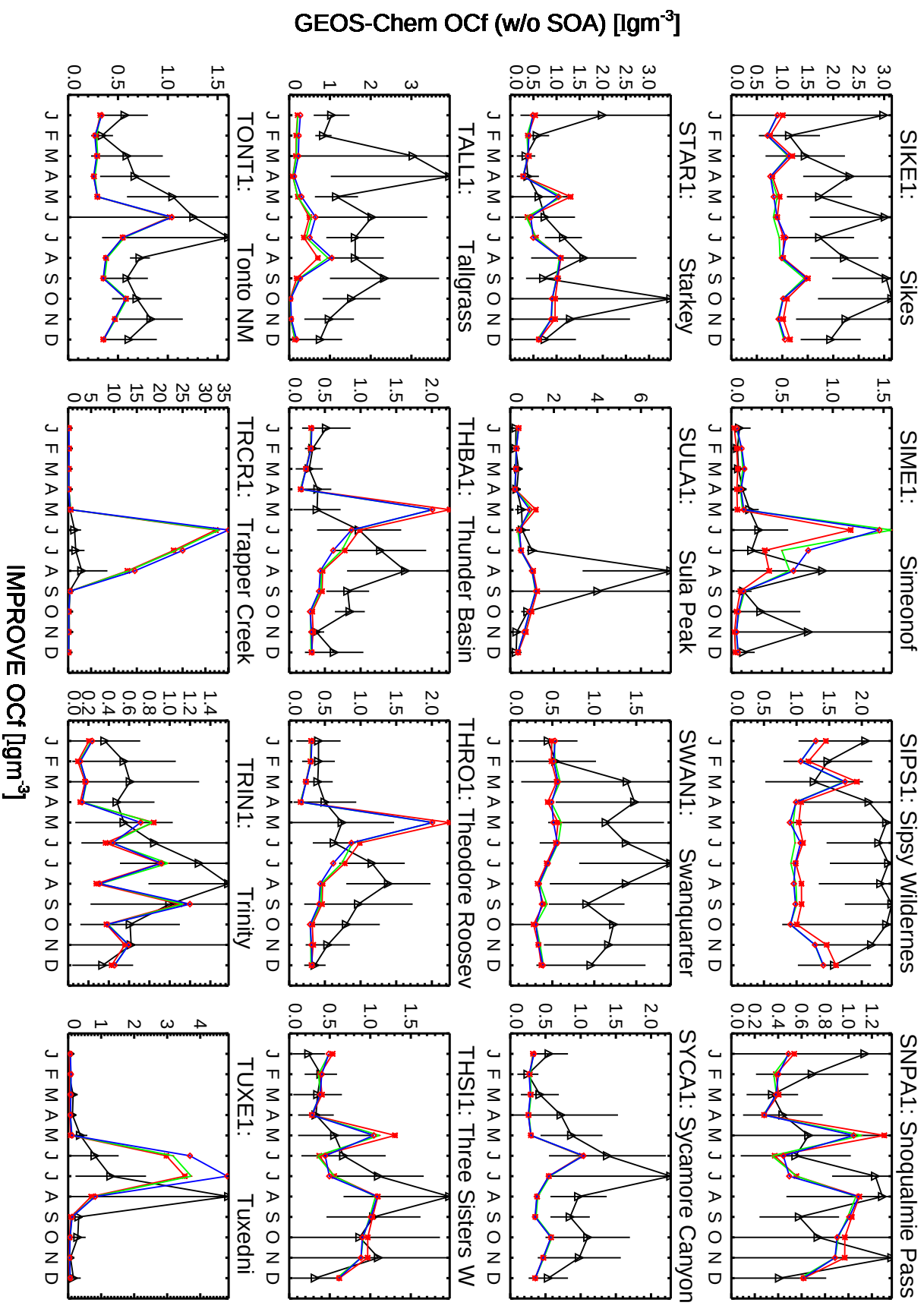
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



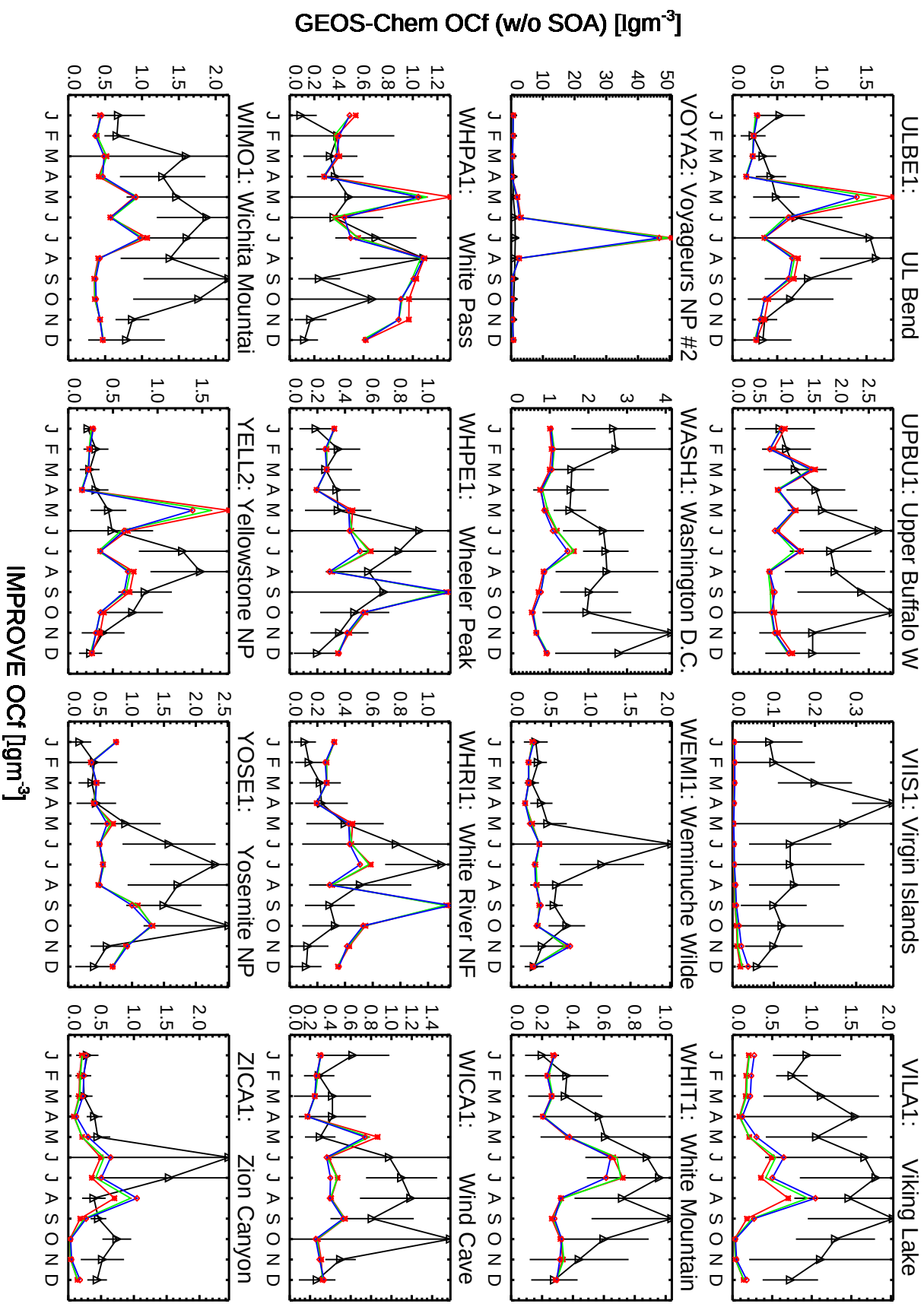
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



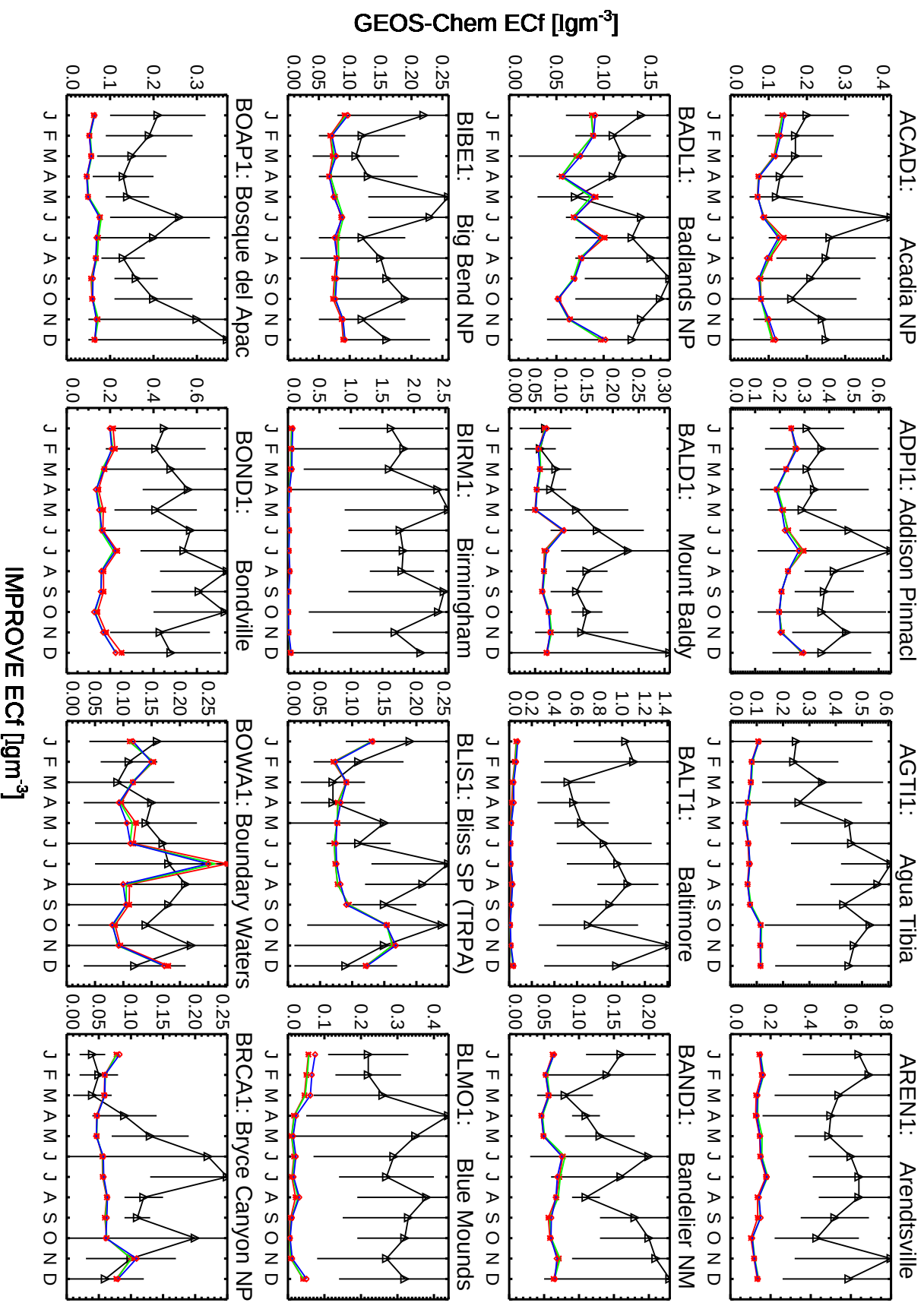
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



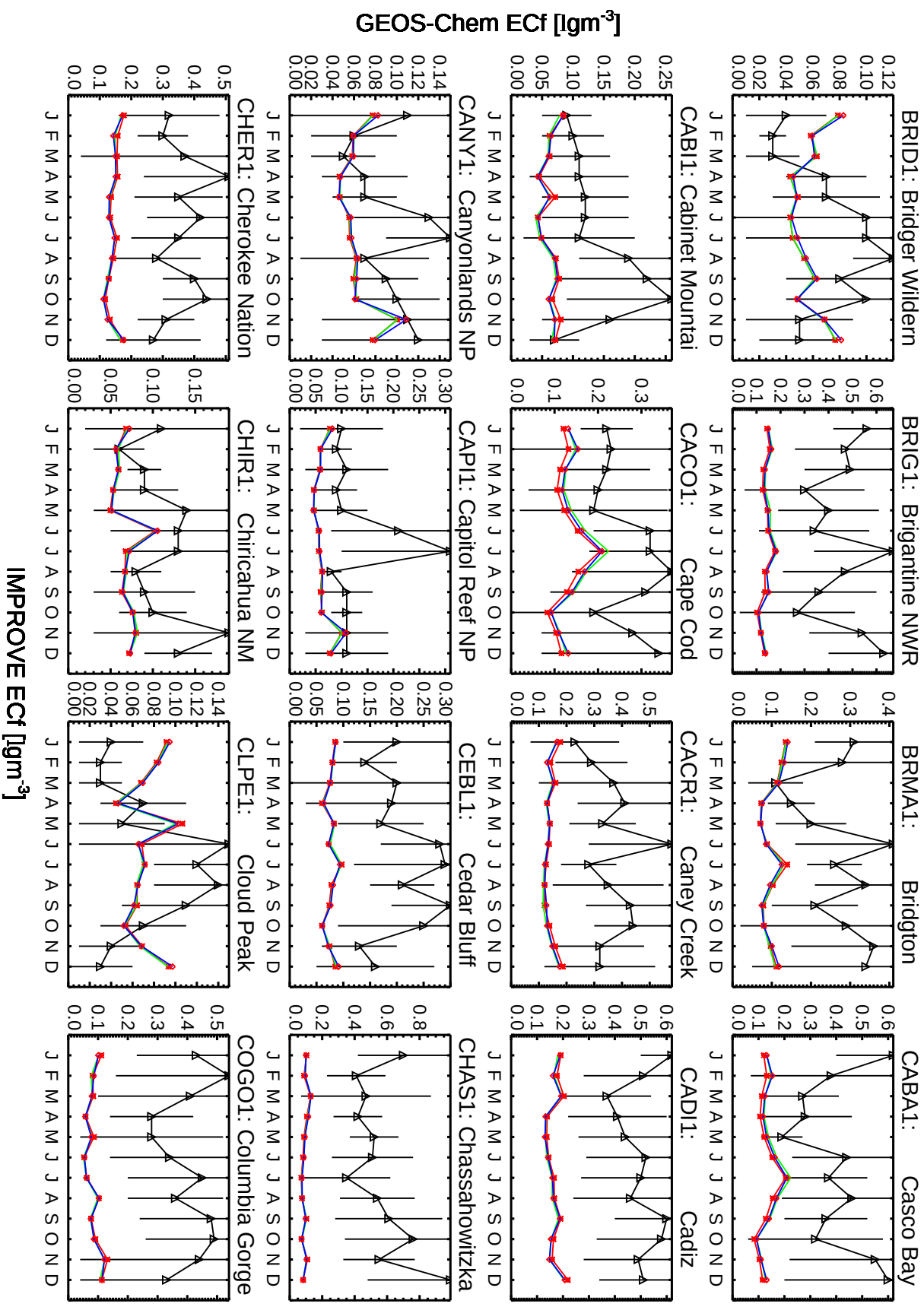
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



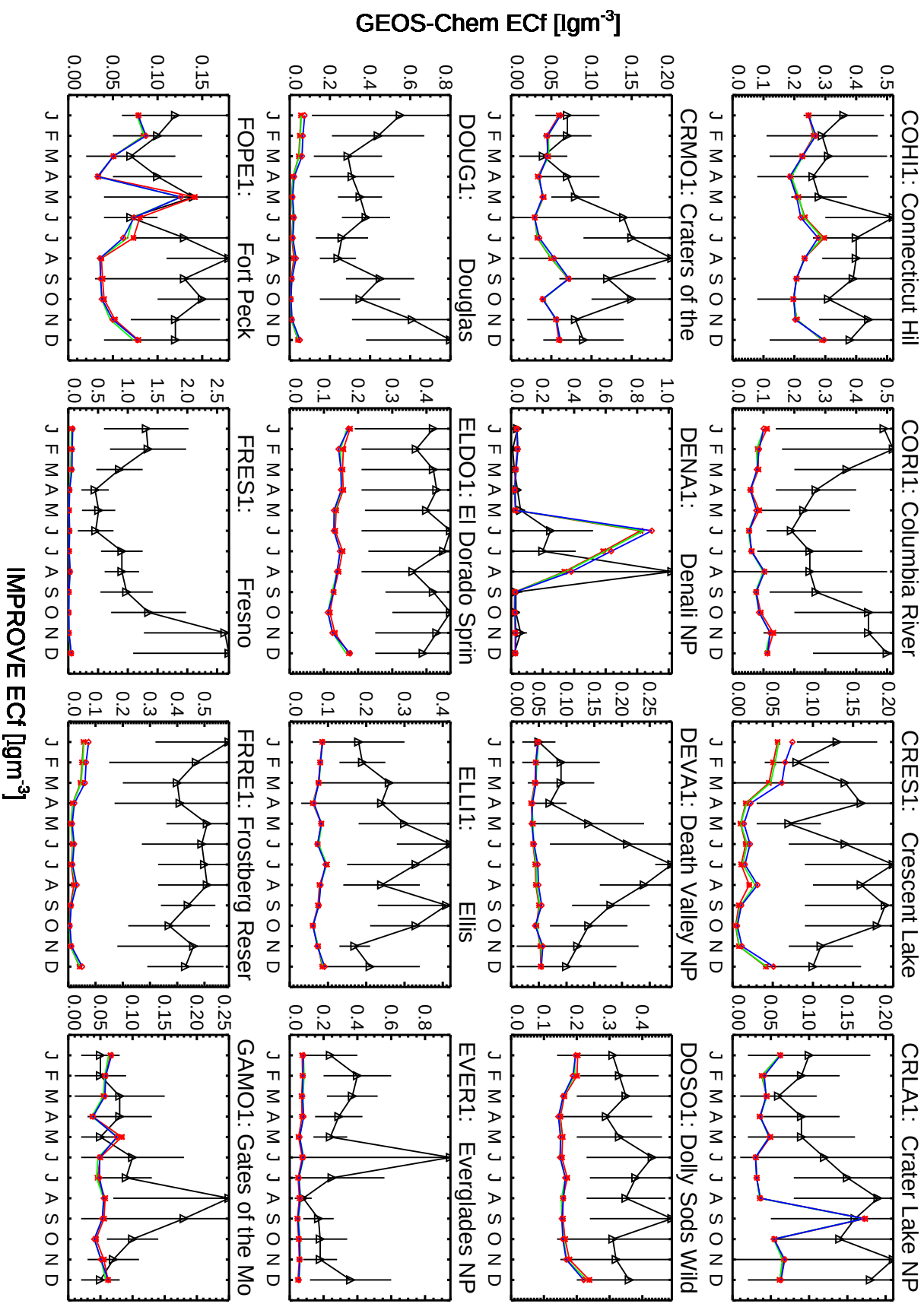
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

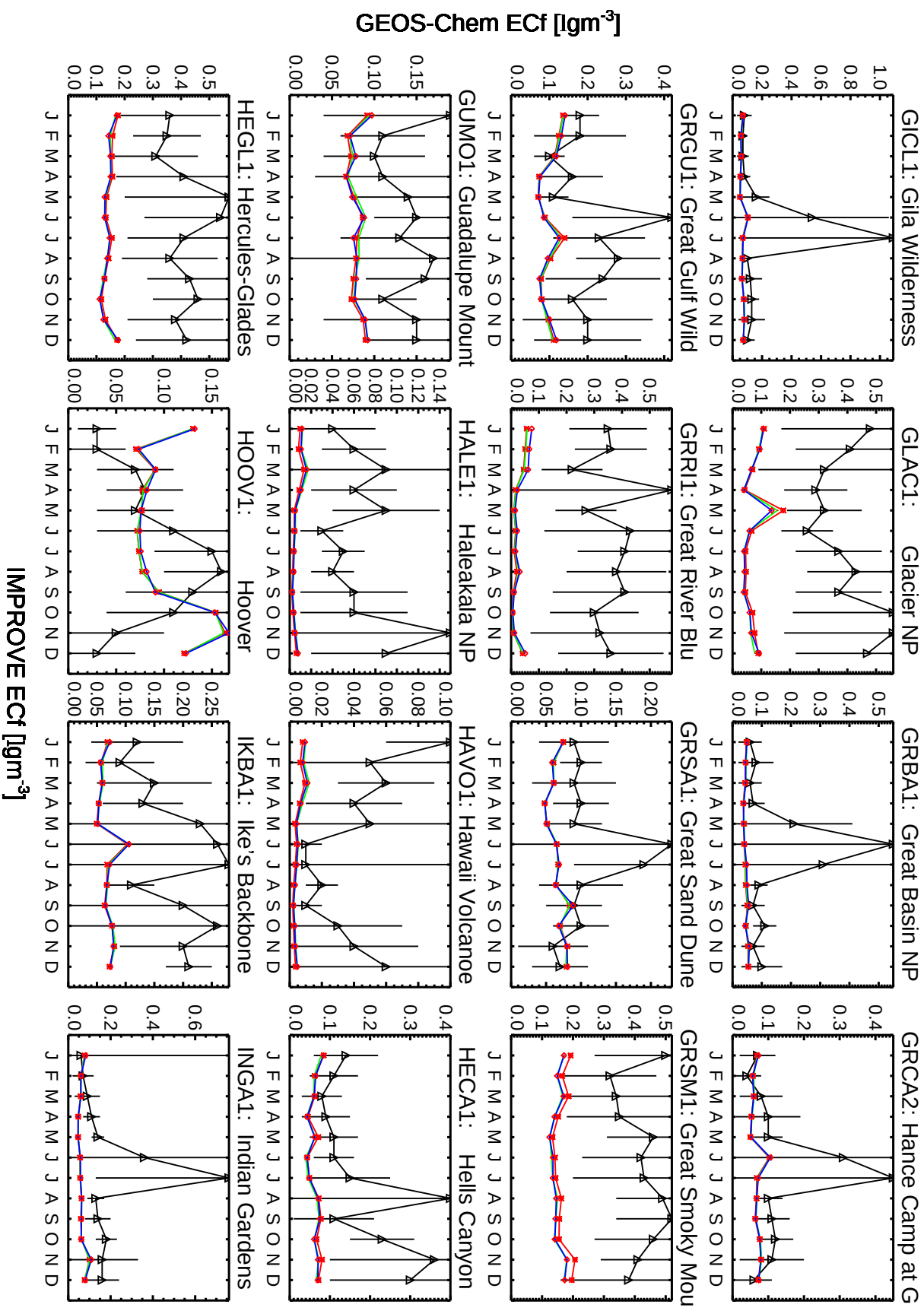


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

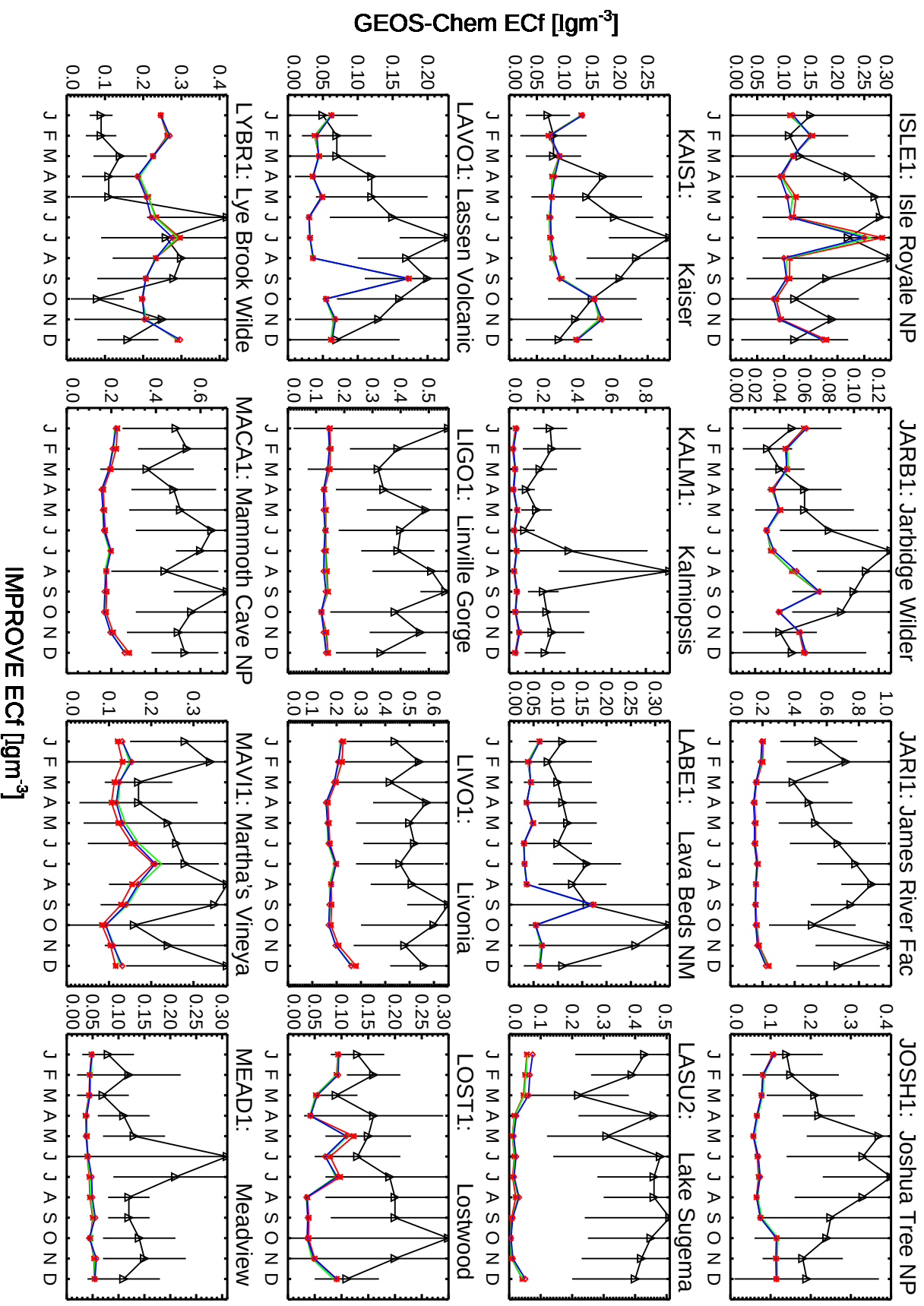




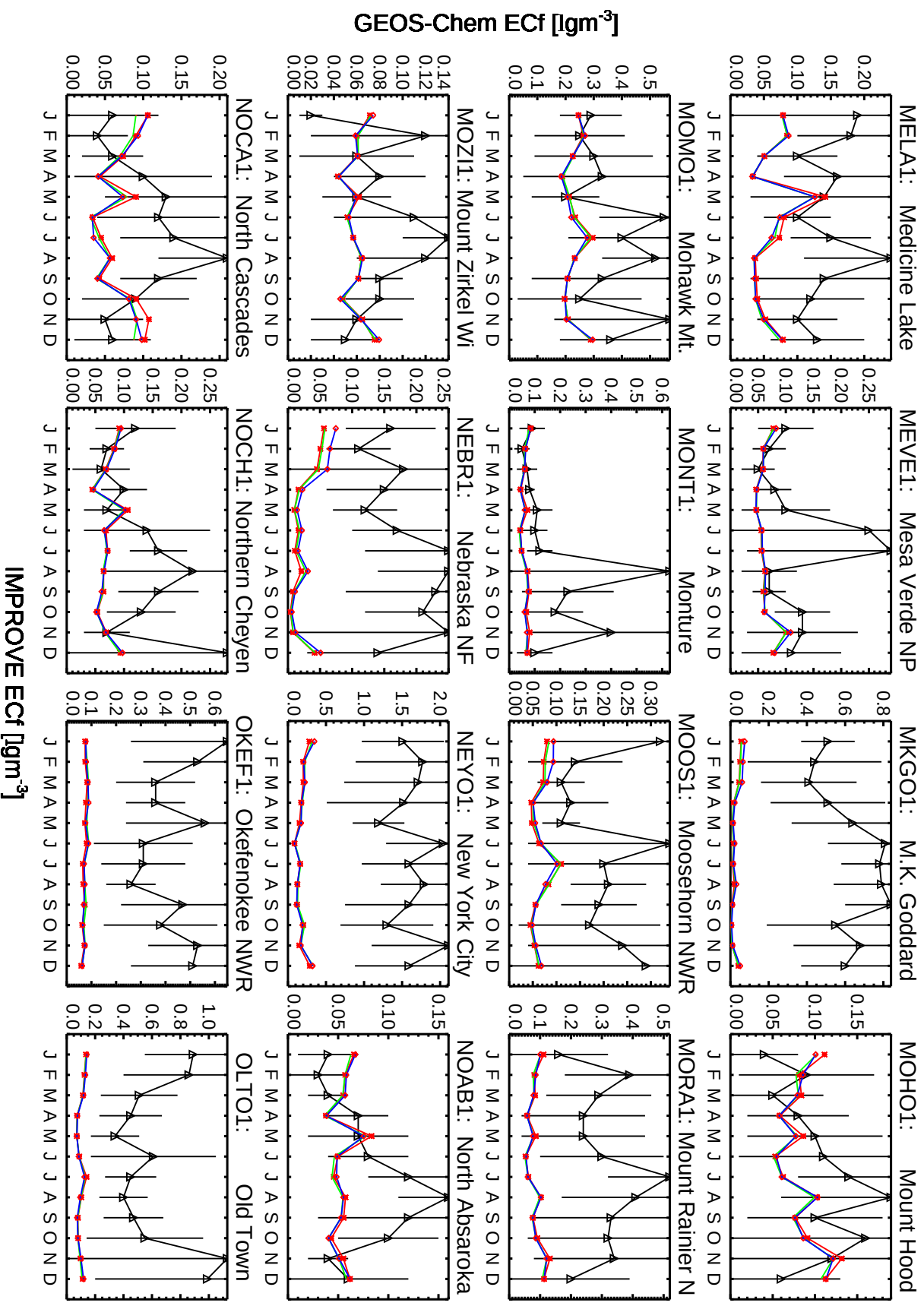
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



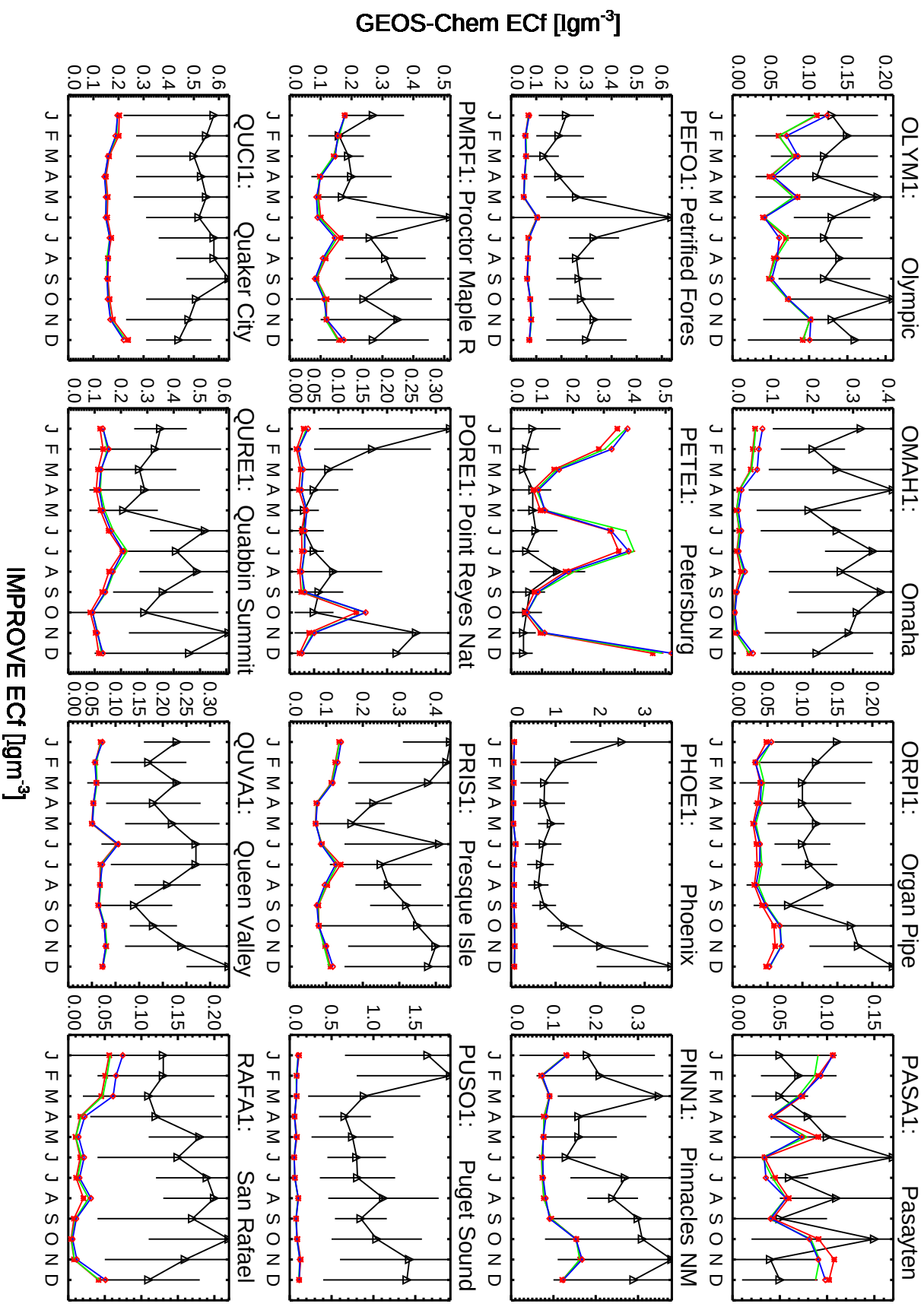
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

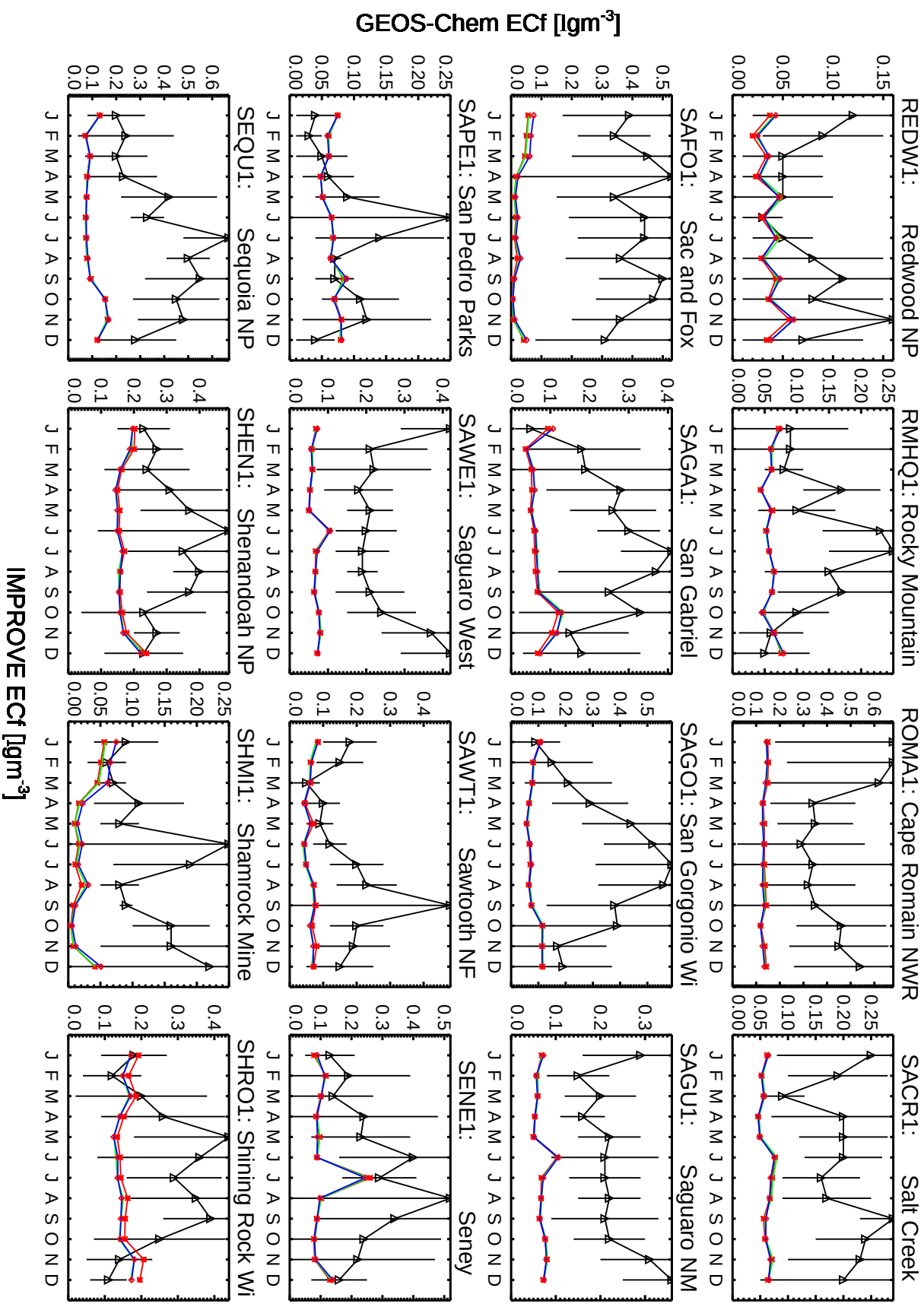


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

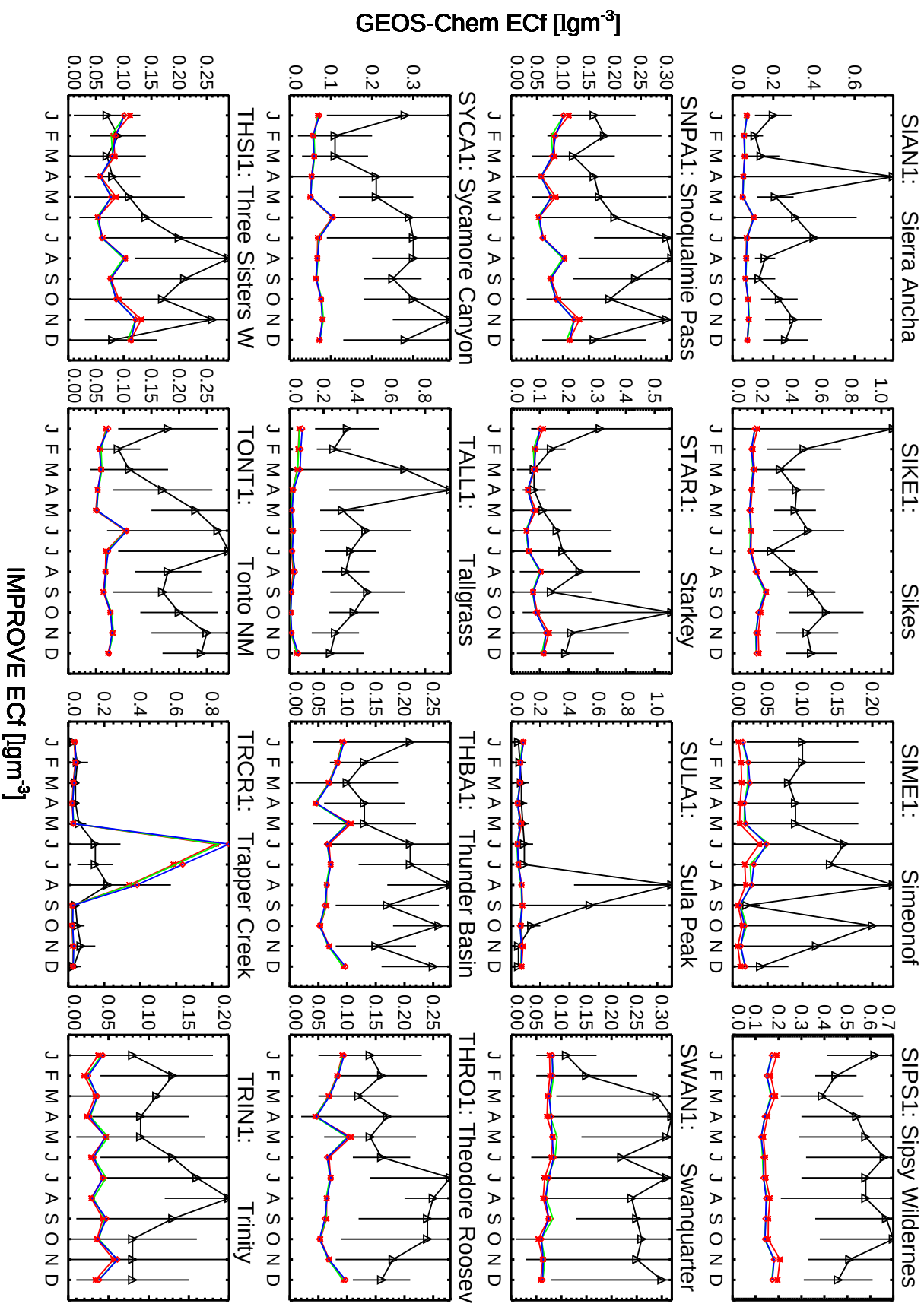


IMPROVE ECf [ $\mu\text{gm}^{-3}$ ]

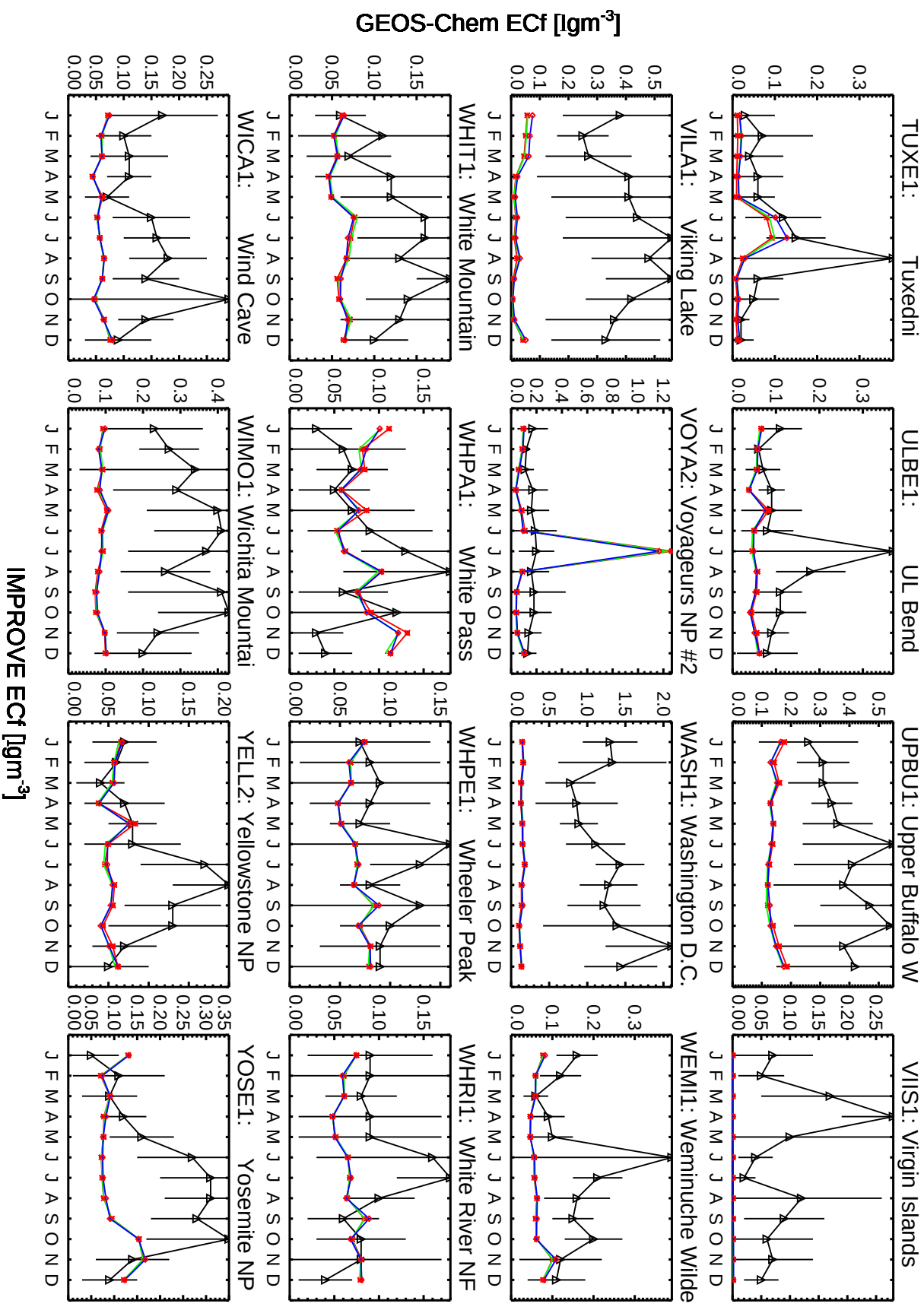
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)

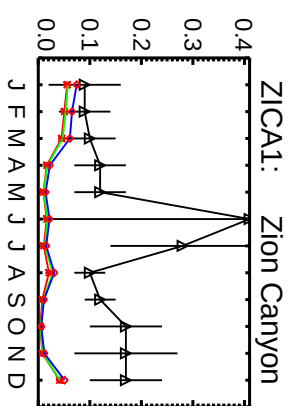


Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)





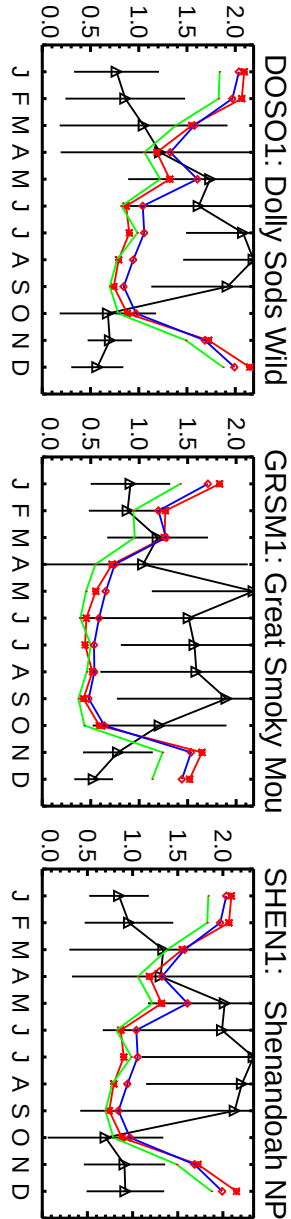
Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



GEOS-Chem ECf [ $\mu\text{g m}^{-3}$ ]

IMPROVE ECf [ $\mu\text{g m}^{-3}$ ]

Red: GCC\_13.2.0 (2019); Green: GCC\_13.3.0 (2019); Blue: GCC\_13.4.0 (2019)



GEOS-Chem  $\text{NH}_4\text{f}$  [ $\mu\text{g m}^{-3}$ ]

IMPROVE  $\text{NH}_4\text{f}$  [ $\mu\text{g m}^{-3}$ ]