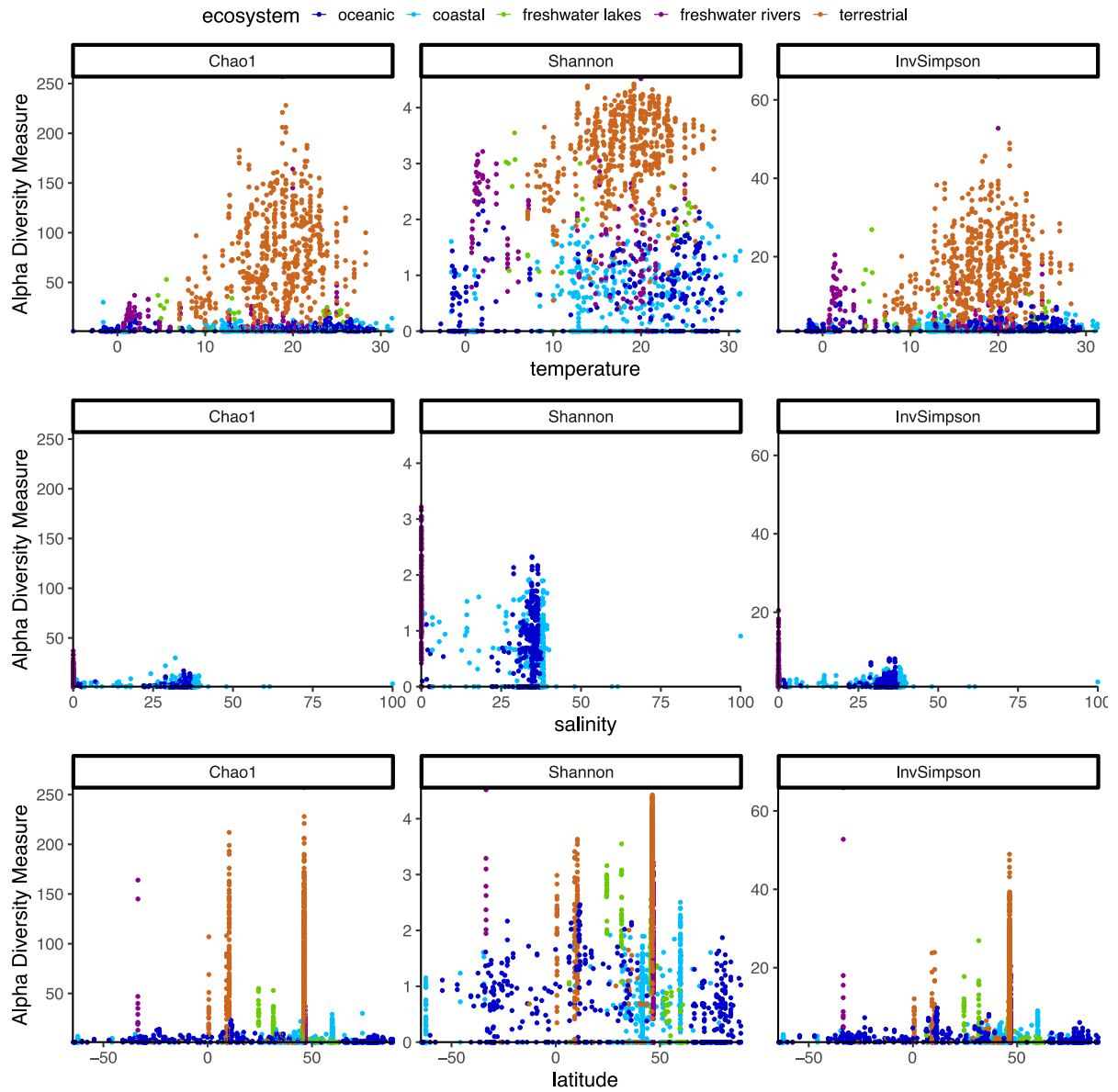
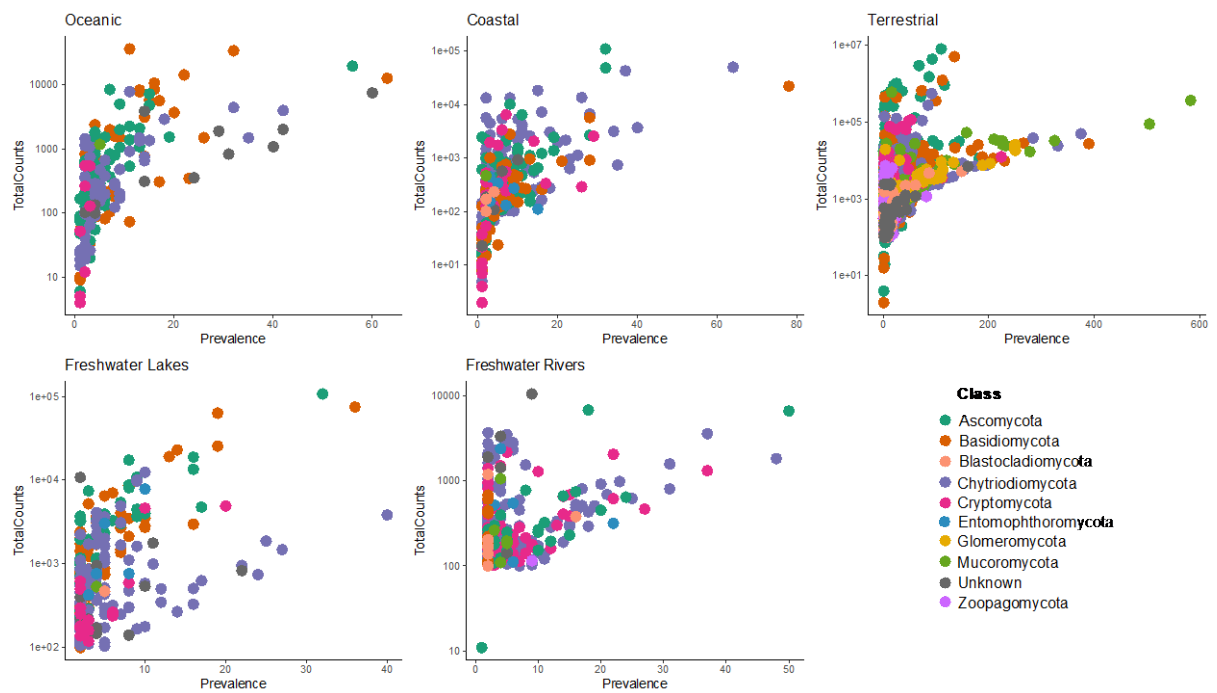


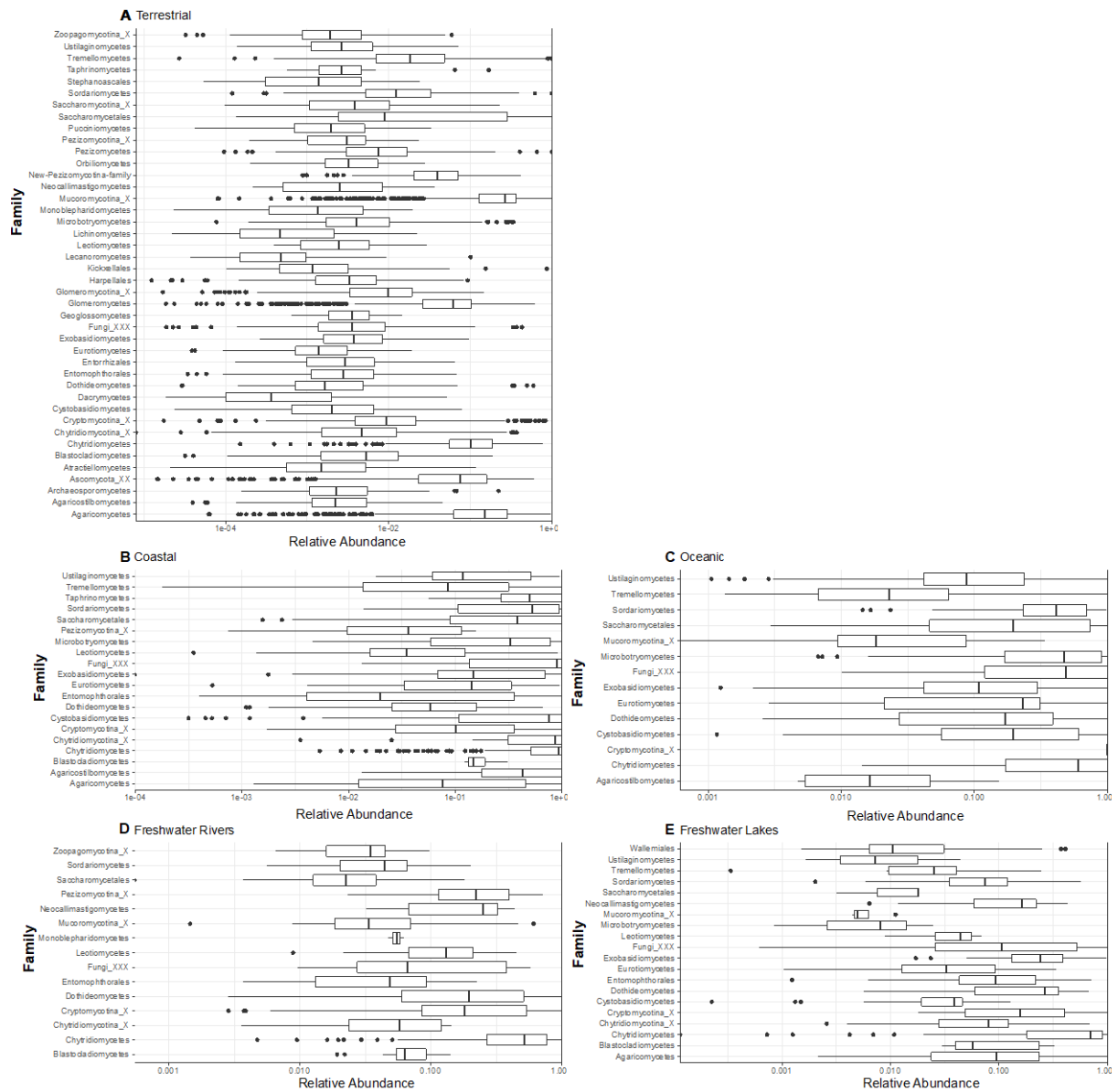
**Supplementary Figure S1.** Alpha diversity metrics (Shannon and Inverse Simpson) as well as Chao estimators by **A.** temperature **B.** salinity **C.** latitude



**Supplementary Figure S2.** Prevalence (Abundance of ASVs by observed samples) of ASVs by ecosystem and fungal class.



**Supplementary Figure S3. A-E.** Boxplots of relative abundances of fungal family by ecosystem.



**Supplementary Figure S4.** Principal Component Analysis on bray-curtis similarity matrices from different ecosystems. Visible ASVs represent ‘3a575d49’ - *Mortierella\_hyalina*, ‘fba3dc651’ - *Rhodotorula\_mucilaginosa*, ‘3b78a83cc9’ - *Chytridiomycetes\_X\_sp.*, ‘544bf132f8’ - *Chytridiomycetes\_X\_sp.*, ‘308b32461’ - *Fungi\_Unkn\_sp.*. All other ASVs are provided in separate Excel sheet (asv.xlsx).

