

Table S1. Bioclimatic variables (35) from the CliMond dataset ([36], (<https://www.climond.org/>))

Number	Variable
bio01	Annual mean temperature (°C)
bio02	Mean diurnal temperature range (mean(period max-min)) (°C)
bio03	Isothermality (Bio02 ÷ Bio07)
bio04	Temperature seasonality (C of V)
bio05	Max temperature of warmest week (°C)
bio06	Min temperature of coldest week (°C)
bio07	Temperature annual range (Bio05-Bio06) (°C)
bio08	Mean temperature of wettest quarter (°C)
bio09	Mean temperature of driest quarter (°C)
bio10	Mean temperature of warmest quarter (°C)
bio11	Mean temperature of coldest quarter (°C)
bio12	Annual precipitation (mm)
bio13	Precipitation of wettest week (mm)
bio14	Precipitation of driest week (mm)
bio15	Precipitation seasonality (C of V)
bio16	Precipitation of wettest quarter (mm)
bio17	Precipitation of driest quarter (mm)
bio18	Precipitation of warmest quarter (mm)
bio19	Precipitation of coldest quarter (mm)
bio20	Annual mean radiation (W m ⁻²)
bio21	Highest weekly radiation (W m ⁻²)
bio22	Lowest weekly radiation (W m ⁻²)
bio23	Radiation seasonality (C of V)
bio24	Radiation of wettest quarter (W m ⁻²)
bio25	Radiation of driest quarter (W m ⁻²)
bio26	Radiation of warmest quarter (W m ⁻²)
bio27	Radiation of coldest quarter (W m ⁻²)
bio28	Annual mean moisture index
bio29	Highest weekly moisture index
bio30	Lowest weekly moisture index
bio31	Moisture index seasonality (C of V)
bio32	Mean moisture index of wettest quarter
bio33	Mean moisture index of driest quarter
bio34	Mean moisture index of warmest quarter
bio35	Mean moisture index of coldest quarter

Table S2. Environmental variables (13) from the near-global environmental information for freshwater ecosystems (EarthEnv NGEI, 12 variables characterizing land cover, [37], <http://www.earthenv.org/>) and the Global Aridity Index_ET0 (Global-AI_ET0, [38]).

Number	Variable
1. lc_avg_01	Evergreen/deciduous needleleaf trees
2. lc_avg_02	Evergreen broadleaf trees
3. lc_avg_03	Deciduous broadleaf trees
4. lc_avg_04	Mixed/other trees
5. lc_avg_05	Shrubs
6. lc_avg_06	Herbaceous vegetation
7. lc_avg_07	Cultivated and managed vegetation
8. lc_avg_08	Regularly flooded shrub/herbaceous vegetation
9. lc_avg_09	Urban/built-up
10. lc_avg_10	Snow/ice
11. lc_avg_11	Barren lands/sparse vegetation
12. lc_avg_12	Open water
13. Global-AI_ET0	Global Aridity Index