J.K.Bai et.al.,2021.Mangrove diversity enhances plant biomass production and carbon storage in Hainan island, China, *Functional Ecology*.

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Data collected method.

Data collected based on intensive field survey from 234 field plots of 30 transects in the mangrove forests.

Data collected time range

Nov.2017—Jul.2018

Data collected site

Hainan island, South of China.
(108°37'E—111°03'E, 18°10'N—20°10'N)

Data File list (Data_Bai et al_2021.zip)

1. Data_Bai et al_2021_Type_Diver_Bio.xlsx
2. Data_Bai et al_2021_Structural alanalysis.xlsx
3. Data_Bai et al_2021_Environmental factors.xlsx
4. Data_Bai et al_2021_Carbon storage.xlsx

Data File descriptions

1.Data_Bai et al_2021_Type_Diver_Bio.xlsx The data from 234 field plots of Hainan mangroves. Tree type was divided into three type based on the tree height and mangrove community. Diversity index was calculated as Shannon-Weiner index and Simpson index for each plot. Biomass production (kg/m^2) was estimated based on individual DBH data by species-specific allometric equations.

2.Data_Bai et al_2021_Structural alanalysis.xlsx Structural factors include tree density (trees/m^2), Mean diameter at breast height (DBH), tree density indicated the trees per unit square meter, which were used to estimate the relationship among the tree density, biomass production, and diversity.

3.Data_Bai et al_2021_Environmental factors.xlsx.
Data on environmental factors of mangrove plots from 30 transects. MAT=Mean Annual Temperature, MAP= Mean Annual Precipitation, WC=Water content, W-Sal=Water salinity, S-Sal=Soil salinity, W-pH=Water pH, S-pH=Soil pH, TB=Total biomass, Tree den=Tree density, Diver=Shannon-Weiner Diversity index.

4.Data_Bai et al_2021_Carbon storage.xlsx. Data on average carbon storage (Mg C/ha) of mangroves from 30 transects. Soil C was measured from 100cm deep soil cores. Biomass C included the aboveground biomass carbon pool and belowground biomass carbon pool. Total carbon storage contains all of the above carbon pool.

Data Citation

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