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sPlot – the new global vegetation-plot database for addressing trait-environment relationships across the world's biomes

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The trait composition of plant communities is determined by abiotic, biotic and historical factors, but the importance of macro-climatic factors in explaining trait-environment relationships at the local scale remains unclear. Such knowledge is crucial for biogeographical and ecological theory but also relevant to devise management measures to mitigate the negative effects of climate change. To address these questions, an iDiv Working Group has established the first global vegetation-plot database (sPlot). sPlot currently contains ∼700,000 plots from over 50 countries and all biomes, and is steadily growing. Approx. 70% of the most frequent species are represented by at least one trait in the global trait database TRY and gap-filled data will become available for the most common traits. We will give an overview about the structure and present content of sPlot in terms of spatial distribution, data properties and trait coverage. We will explain next steps and perspectives, present first cross-biome analyses of community-weighted mean traits and trait variability, and highlight some ecological questions that can be addressed with sPlot.