

sPlot Newsletter #11



November 2022

By Gabriella Damasceno (sPlot coordinator), Helge Bruelheide, Idoia Biurrun, Milan Chytrý, Borja Jiménez-Alfaro and Susan K. Wisser (sPlot Steering Committee)

See all sPlot newsletters [here](#).

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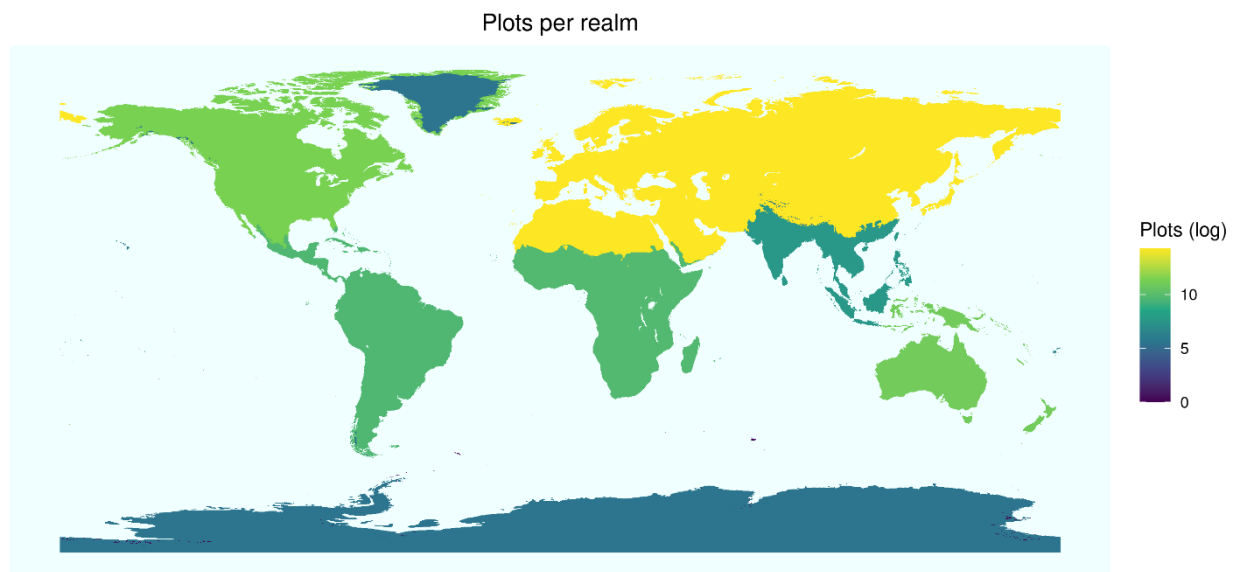
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sPlot is a research platform of the German Center for Integrative Biodiversity Research Halle-Jena-Leipzig (iDiv) funded by the German Science Foundation (DFG). The newsletter informs about sPlot activities to the consortium members (custodians of vegetation databases and other collaborators involved in sPlot research projects).

1. sPlot 4.0 – A call for the Global South

We are glad to share that we resumed activities for the **building of sPlot 4.0**. As already advertised in the previous newsletter ([May 2021](#)), this new version will bring the **temporal dimension within the sPlot database**. This means that repeated surveys of plots will be incorporated, opening the opportunity for research on biodiversity global trends in addition to the studies already using sPlot data to evaluate biodiversity patterns.

Additionally, we are actively promoting the integration of researchers from underrepresented areas, as is the case with the Global South. Despite hosting most of the plant biodiversity, plots from the south hemisphere only account for 4% of the sPlot database (Figure 1; 86 500 plots out of 1 975 186). We hope to reduce the biases in the geographic cover of sPlot by explicitly making **a call towards the Global South**.



This doesn't mean, however, that we won't work to **expand the sPlot** also in well represented areas. We anticipatedly thank you for any help in reaching researchers who might have new data to contribute to sPlot, especially considering time-series data.

If you or your colleagues:

- 1) **Have expanded, updated or corrected the dataset you represent**
- 2) **Have established a new dataset of vegetation plots**
- 3) **Have data on vegetation-plot time-series**
- 4) **Are aware of colleagues holding such data**

Please get in touch with sPlot's coordinator

– gabriella.damasceno@idiv.de –

to discuss the best way to include these new data sources into sPlot 4.0. For technical information on data and metadata provision format, we will stick to the same standards from the [ReSurveyEurope](#) project. You can contribute your update using TurboVeg formats or according to [this Excell template](#).

This call is explicitly aimed at **mobilizing vegetation-plot data from outside Europe**. For data already in EVA, we will establish a simplified procedure, so that all the custodians of European datasets can have their data automatically transferred to sPlot, if they so wish.

2. Fresh off the press

We are happy to share that the 11th sPlot paper was published! The findings of project #11, led by Francesco Sabatini, are now openly available in Nature Communications. The paper is entitled ***Global patterns of vascular plant alpha diversity*** and shows how grain can influence the alpha diversity of plant communities across the globe.

Sabatini, F.M., Jiménez-Alfaro, B., Jandt, U., Attorre, F., Cayuela, L., Chytrý, M., De Sanctis, M., Field, R., Haider, S., Hatim, M.Z., Indreica, A., Jansen, F., Kessler, M., Lenoir, J., Schmidt, M., Pauchard, A., Peet, R.K., Petřík, P., Schrod, F., Vassilev, K., Violle, C., Wiser, S., Bruelheide, H. Global patterns of vascular plant alpha diversity. *Nat Commun* **13**, 4683 (2022). <https://doi.org/10.1038/s41467-022-32063-z>

While we are waiting for the final acceptance of other papers from sPlot projects, we can also share the publication of four papers by members of the consortium on which the sPlot team had given external support:

Jandt, U., Bruelheide, H., Jansen, J., Bonn, A., Grescho, V., Klenke, R., Sabatini, F.M., Bernhardt-Römermann, M., Blüml, V., Dengler, J., Diekmann, M., Dörfler, I., Döring, U., Dullinger, S., Haider, S., Heinken, T., Horchler, P., Kuhn, G., Lindner, M., Metze, K., Müller, N., Naaf, T., Pepler, Lisbach, C., Poschlod, P., Roscher, C., Rosenthal, G., Rumpf, S., Schmidt, W., Schrautzer, J., Schwabe, A., Schwartze, P., Sperle, T., Stanik, N., Storm, C., Voigt, W., Wegener, U., Wesche, K., Wittig, B., Wulf, M. (2022): More losses than gains during one century of plant biodiversity change in Germany. – Nature <https://doi.org/10.1038/s41586-022-05320-w>

Wolf, S., Mahecha, M.D., Sabatini, F.M., Wirth, C., Bruelheide, H., Kattge, J., Moreno Martínez, Á., Mora, K., Kattenborn, T. (2022): Citizen science plant observations encode global trait patterns. – Nature Ecology and Evolution DOI 10.1038/s41559-022-01904-x

Weigelt, A., Mommer, L., Andrzejak, K., Iversen, C.M., Bergmann, J., Bruelheide, H., Fan, Y., Freschet, G.T., Guerrero-Ramírez, N.R., Kattge, J., Kuyper, T.W., Laughlin, D.C., Meier, I.C., van der Plas, F., Poorter, H., Roumet, C., van Ruijven, J., Sabatini, F.M., Semchenko, M., Sweeney, C.J., Valverde-Barrantes, O.J., York, L.M. & McCormack, M.L. (2021) An integrated framework of plant form and function: the belowground perspective. *New Phytologist*, 232, 42-59. <https://doi.org/10.1111/nph.17590>

Graco-Roza, C., Aarnio, S., Abrego, N., Acosta, A.T.R., Alahuhta, J., Altman, J., Angiolini, C., Aroviita, J., Attorre, F., Bastrup-Spohr, L., Barrera-Alba, J.J., Belmaker, J., Biurrun, I., Bonari, G., Bruelheide, H., Burrascano, S., Carboni, M., Cardoso, P., Carvalho, J.C., Castaldelli, G., Christensen, M., Correa, G., Dembicz, I., Dengler, J., Dolezal, J., Domingos, P., Erős, T., Ferreira, C.E.L., Filibeck, G., Floeter, S.R., Friedlander, A.M., Gammal, J., Gavioli, A., Gossner, M.M., Granot, I., Guarino, R., Gustafsson, C., Hayden, B., He, S., Heilmann-Clausen, J., Heino, J., Hunter, J.T., Huszar, V.L.M., Janišová, M., Jyrkänkallio-Mikkola, J., Kahilainen, K.K., Kempainen, J., Kozub, Ł., Kruk, C., Kulbiki, M., Kuzemko, A., Christiaan le Roux, P., Lehtinen, A., Teixeira de Lima, D., Lopez-Urrutia, A., Lukács, B.A., Luoto, M., Mammola, S., Marinho, M.M., Menezes, L.S., Milardi, M., Miranda, M., Moser, G.A.O., Mueller, J., Niittynen, P., Norkko, A., Nowak, A., Ometto, J.P., Ovaskainen, O., Overbeck, G.E., Pacheco, F.S., Pajunen, V., Palpurina, S., Picazo, F., Prieto, J.A.C., Rodil, I.F., Sabatini, F.M., Salingré, S., De Sanctis, M., Segura, A.M., da Silva, L.H.S., Stevanovic, Z.D., Swacha, G., Teittinen, A., Tolonen, K.T., Tsiripidis, I., Virta, L., Wang, B., Wang, J., Weisser, W., Xu, Y. & Soininen, J. Distance decay 2.0 – A global synthesis of taxonomic and functional turnover in ecological communities. *Global Ecology and Biogeography*, n/a. <https://doi.org/10.1111/geb.13513>

Thank you all who is doing science with sPlot! You can find the complete list of sPlot's publications on our website:

https://www.idiv.de/en/sdiv/working_groups/wg_pool/splot/publications.html

3. New projects – Old projects

Seven new research projects have been approved:

(#40) *Species diversity of beech (Fagus) forests worldwide. Lead authors:* Qiong Cai & Zhiyao Tang – Institute of Ecology, College of Urban and Environmental Sciences, Peking University (PKU), China

(#41) *Multifaceted tree diversity and evolution across elevations worldwide. Lead authors:* Maria Laura Tolmos & Holger Kreft - Biodiversity, macroecology and biogeography, University of Göttingen, Germany

(#42) *Identifying threatened groundwater dependent ecosystems as local biodiversity hotspots globally via remote sensing. Lead authors:* Léonard El-Hokayem & Christopher Conrad - Martin Luther University Halle-Wittenberg, yDiv & iDiv, Germany

(#43) *Coniferous forests of the Earth: looking for common patterns. Lead author:* Dario Ciaramella, Italy

(#44) *Impacts of land use change on plant species composition across ecoregions. Lead author:* Francesco Sabatini, University of Bologna, Italy

(#45) *A leaf trait-based classification to better trace the paleoecological context of fossil assemblages. Lead author:* Agathe Toumoulin, Masaryk University, Czech Republic

(#46) *Comparison of the global distribution of functional and phylogenetic diversity in plant communities. Lead author:* Georg Hähn, Martin Luther University Halle-Wittenberg, Germany

From the total of 46 projects approved since the beginning of sPlot, ten are finished, six were discontinued, 15 are stand-by and 15 are active. The development of active projects is summarized below; we thank all project leaders who answered the survey.



A few projects are in standby and/or didn't reply to the survey:

- (#13) Global patterns of aquatic macrophyte diversity – environment relationships with focus on native versus invasive species*
- (#14) Functional convergence of terrestrial ecosystems within world biomes*
- (#15) Cross-scale transferability of species niche breadth estimates*
- (#16) Projecting tree diversity and distributions in a changing world*
- (#17) Spatial patterns of plant assemblages in mountains*
- (#20) Trait-dependent extinctions across flowering plants in biodiversity hotspots*
- (#21) Reaching for the sky: Unravelling global patterns and processes to explain convergent evolution of woodiness in angiosperms*
- (#22) A macroecological survey of intraspecific plant trait variation*
- (#23) Global patterns of plant beta diversity in tree assemblages*
- (#26) Global patterns of leaf carbon, nitrogen and phosphorus stoichiometry in plant communities*
- (#32) A quest for biodiversity shortfalls: global-scale species abundance estimation of woody plants*
- (#35) Does temporal climatic variability correlate with the environmental tolerance of plant communities? (Securing funding)*
- (#38) Testing the Biotic Resistance Hypothesis in the Tropics from a functional perspective*
- (#39) How can trait-based ecology improve paleoclimate and paleoenvironment reconstructions?*

The following projects have been discontinued:

- (#04) The role of climate stability for trait variability across scales and biomes*
- (#05) Can Earth observation data be used to measure changes in taxonomic and functional diversity?*
- (#07) Scaling taxonomical, functional and phylogenetic community diversity*
- (#09) Downscaling of species distribution models: towards fine-grain presence-absences for grasses*
- (#19) Toward a mechanistic description of land uses for ecological studies: Building a Vegetation <> Land-use converter for Europe*
- (#20) Trait-dependent extinctions across flowering plants in biodiversity hotspots*

4. Other news

New sPlot coordinator

As you might have noticed, we have a new sPlot coordinator! Gabriella Damasceno has assumed the position on April 01st, resuming the management activities of the sPlot consortium. Gabriella is an applied ecologist with training in the management of tropical savannas, both as pristine ecosystems as well as in their restoration when invaded by alien plants. She believes that the integration of knowledge from distinct disciplines is crucial to overcome the challenges posed by the biodiversity crisis, and integrating big data approaches with applied ecological questions is a promising pathway she sees ahead. Meanwhile, as we welcome Gabriella, we also thank Francesco for his great work during the last three years as sPlot coordinator – as well as his continued assistance.

sPlot meeting during the 64th IAVS Annual Symposium in Madrid

Resuming also our in-person activities, the sPlot team coordinated a meeting with sPlot members and researchers interested in becoming part of the consortium. We counted with 28 attendees, 25 in-person and three online participants. We discussed, among other topics, how to become part of sPlot and how the consortium could foster participation of researchers from the Global South. You can find a report on the meeting [here](#).

Elections for the Steering Committee

The two-year mandate of the current Steering Committee will end in December this year (2021-2022). Therefore, we would like to draw your attention to the election process that will begin soon. As usual, we will first have a call for nominations and then the poll. Every custodian has the right to nominate candidates and to vote, one vote per database included in sPlot. Continuing towards the direction of promoting a more inclusive Steering Committee, we want to promote the participation of under-represented groups, like women, researchers from the Global South and/or early career researchers. As part of this effort, we will accept also anonymous nominations of other sPlot members. Please consider indicating a name that you think could help us to further pursue diversity in sPlot Steering Committee. [Here](#) you find all sPlot members and their contributed databases. Please do not hesitate in contacting the sPlot coordinator (gabriella.damasceno@idiv.de) to discuss a possible candidature. The first e-mail for the opening the nomination period will reach you soon, stay tuned!

IV sPlot workshop

The last sPlot workshop took place in 2016, and since then, the project has grown in content and scope. Besides ideas to advance the usability of the database for biodiversity research, as it will be done by including the temporal dimension with repeated surveys, there is great concern about expanding the geographic extent of sPlot, which is still non-satisfactory in most regions in the Global South. Also, in alignment with efforts to increase diversity in discussions and projects, we are planning to launch IV sPlot workshop with a focus in fomenting the participation of researchers from the Global South. We have already received funding from the Martin Luther University in Halle, associated with the iDiv center, and have scheduled the workshop for April or May 2023. Please stay tuned for more news soon!

Greetings from the sPlot team

(For further information contact gabriella.damasceno@idiv.de)

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