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PROFESSOR PETTERI VIHERVAARA

FINNISH ENVIRONMENT INSTITUTE (SYKE)



Research Professor Petteri Vihervaara (PhD) is working at the Finnish Environment Institute (Syke) with a focus on biodiversity monitoring for sustainability.

He has a long-term experience on international research networks such as GEO BON (the Group on Earth Observations – Biodiversity Observation Network). Currently, he leads the European Biodiversity Partnership's (Biodiversa+) work on aiming at harmonized transnational biodiversity monitoring networks in Europe (WP2). Petteri's passion in science has been integration of different disciplines and novel technologies for better understanding of changes in nature, which is also the goal in the ongoing Horizon Europe -funded OBSGESSION (Observation of Ecosystem Changes for Action) project of which coordinator he is. In free time his passion is directed towards fly-fishing, board games, books and music (particularly jazz). Petteri's CV and a list of publications are available at the personal webpage: <https://www.syke.fi/en/experts/petteri-vihervaara>.

A few selected articles:

- Laamanen T, Norros V, **Vihervaara P**, Jerney J, Kortelainen P, Kujala K, Lambert S, Mäyrä J, Nikula L, Palmroos I, Tolkkinen M, Vuorio K, Meissner K (2025): Technology Readiness Level of biodiversity monitoring with molecular methods – where are we on the road to routine implementation? *Metabarcoding and Metagenomics* 9: e130834, <https://doi.org/10.3897/mbmg.9.130834>
- Jussila, T., Heikkinen, R.K., Anttila, S., Aapala, K., Kervinen, M., Aalto, J. & **Vihervaara, P.** (2024): Quantifying wetness variability in aapa mires with Sentinel-2: towards improved monitoring of an EU priority habitat. *Remote Sens Ecol Conserv*, 10(2):172-187, <https://doi.org/10.1002/rse2.363>
- Palmroos, I., Norros, V., Keski-Saari, S., Mäyrä, J., Tanhuanpää, T., Kivinen, S., Pykälä, J., Kullberg, P., Kumpula, T. & **Vihervaara, P.** (2023): Remote sensing in mapping biodiversity – A case study of epiphytic lichen communities, *Forest Ecology and Management*, 538,120993, <https://doi.org/10.1016/j.foreco.2023.120993>
- Gonzalez, A., **Vihervaara, P.**, Balvanera, P. et al. (2023): A global biodiversity observing system to unite monitoring and guide action. *Nature Ecology & Evolution* 7:1947-1952, <https://doi.org/10.1038/s41559-023-02171-0>
- Skidmore, A., Coops, N., Neinavaz, E., Ali, A., Schaepman, M., Paganini, M., Kissling, W.D., **Vihervaara, P.**, Darvishzadeh, R., Feilhauer, H., Fernandez, M., Fernández, N., Gorelick, N., Geizendorffer, I., Heiden, U., Heurich, M., Hobern, D., Holzwarth, S., Muller-Karger, F., van de Kerchove, R., Lausch, A., Leitão, P., Lock, M.C., Múcher, C.A., O'Connor, B., Rocchini, D., Turner, W., Vis, J.K., Wang, T., Wegmann, M. & Wingate, V. 2021: Priority list of biodiversity metrics to observe from space. *Nature Ecology & Evolution* 5: 896-906 <https://doi.org/10.1038/s41559-021-01451-x>
- Mäyrä, J., Kivinen, S., Tanhuanpää, T., Keski-Saari, S., Hurskainen, P., Kullberg, P., Poikolainen, L., Viinikka, A., Kumpula, T. & **Vihervaara, P.** 2021: Tree species classification from airborne hyperspectral and LiDAR data using 3D convolutional neural networks. *Remote Sensing of Environment*, 256(112322). <https://doi.org/10.1016/j.rse.2021.112322>
- **Vihervaara, P.**, Auvinen, A.-P., Mononen, L., Törmä, M., Ahlroth, P., Anttila, S., Böttcher, K., Forsius, M., Heino, J., Heliölä, J., Koskelainen, M., Kuussaari, M., Meissner, K., Ojala, O., Tuominen, S., Viitasalo, M., & Virkkala, R. 2017: How Essential Biodiversity Variables and remote sensing can help national biodiversity monitoring. *Global Ecology and Conservation* 10: 43-59 <https://doi.org/10.1016/j.gecco.2017.01.007>