

Vuonna 2020 julkaistut maaperään liittyvät tieteelliset artikkelit, joissa on ollut mukana Suomessa vaikuttavia tutkijoita

Sisältö

Metsämaat	1
Maatalousmaat	3
Turvemaat ja orgaaniset maat	5
Arktinen alue	8
Kaupunkimaat ja haitta-aineet	8
Maaperäbiologia	9
Tietokannat	10
Muut maanosat	10

Metsämaat

Bai, SB; Qiu, WT; Zhang, H; Wang, YX; Berninger, F
Soil respiration following Chinese fir plantation clear-cut: Comparison of two forest regeneration approaches
SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2019.135980

Cugunovs, M; Tuittila, ES; Kouki, J
Proximity to charred logs in burned forests likely affects decomposition processes in the soil
SILVA FENNICA, 10.14214/sf.10084

Desie, E; Van Meerbeek, K; De Wandeler, H; Bruelheide, H; Domisch, T; Jaroszewicz, B; Joly, FX; Vancampenhout, K; Vesterdal, L; Muys, B
Positive feedback loop between earthworms, humus form and soil pH reinforces earthworm abundance in European forests
FUNCTIONAL ECOLOGY, 10.1111/1365-2435.13668

Feng, Y; Han, SJ; Chen, W; Gu, Y; Stewart, CE; Zhang, JH; Geng, SC; Chen, ZJ; Setälä, H
Variation in soil lignin protection mechanisms in five successional gradients of mixed broadleaf-pine forests
SOIL SCIENCE SOCIETY OF AMERICA JOURNAL, 10.1002/saj2.20032

Ide, J; Ohashi, M; Koster, K; Berninger, F; Miura, I; Makita, N; Yamase, K; Palviainen, M; Pumpanen, J
Molecular composition of soil dissolved organic matter in recently-burned and long-unburned boreal forests
INTERNATIONAL JOURNAL OF WILDLAND FIRE, 10.1071/WF19085

Joseph, J; Gao, DC; Backes, B; Bloch, C; Brunner, I; Gleixner, G; Haeni, M; Hartmann, H; Hoch, G; Hug, C; Kahmen, A; Lehmann, MM; Li, MH; Luster, J; Peter, M; Poll, C; Rigling, A; Rissanen, KA; Ruehr, NK; Saurer, M; Schaub, M; Schonbeck, L; Stern, B; Thomas, FM; Werner, RA; Werner, W; Wohlgemuth, T; Hagedorn, F; Gessler, A
Rhizosphere activity in an old-growth forest reacts rapidly to changes in soil moisture and shapes whole-tree carbon allocation
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, 10.1073/pnas.2014084117

Lehtonen, A; Tupek, B; Nieminen, TM; Balazs, A; Anjulo, A; Teshome, M; Tiruneh, Y; Alm, J
Soil carbon stocks in Ethiopian forests and estimations of their future development under different forest use scenarios
LAND DEGRADATION & DEVELOPMENT, 10.1002/ldr.3647

Li, Q; Song, XZ; Yrjälä, K; Lv, JH; Li, YF; Wu, JS; Qin, H
Biochar mitigates the effect of nitrogen deposition on soil bacterial community composition and enzyme activities in a *Torreya grandis* orchard
FOREST ECOLOGY AND MANAGEMENT, 10.1016/j.foreco.2019.117717

Lintunen, A; Paljakka, T; Salmon, Y; Dewar, R; Riikonen, A; Holtta, T

The influence of soil temperature and water content on belowground hydraulic conductance and leaf gas exchange in mature trees of three boreal species

PLANT CELL AND ENVIRONMENT, 10.1111/pce.13709

Marttila, H; Lepistö, A; Tolvanen, A; Bechmann, M; Kyllmar, K; Juutinen, A; Wenng, H; Skarbovik, E; Futter, M; Kortelainen, P; Rankinen, K; Hellsten, S; Klove, B; Kronvang, B; Kaste, O; Solheim, AL; Bhattacharjee, J; Rakovic, J; de Wit, H

Potential impacts of a future Nordic bioeconomy on surface water quality

AMBIO, 10.1007/s13280-020-01355-3

Matkala, L; Salemaa, M; Bäck, J

Soil total phosphorus and nitrogen explain vegetation community composition in a northern forest ecosystem near a phosphate massif

BIOGEOSCIENCES, 10.5194/bg-17-1535-2020

Rasheed, MU; Julkunen-Titto, R; Kivimäenpää, M; Riikonen, J; Kasurinen, A

Responses of soil-grown Scots pine seedlings to experimental warming, moderate nitrogen addition and bark herbivory in a three-year field experiment

SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.139110

Ribeiro-Kumara, C; Pumpanen, J; Heinonsalo, J; Metslaid, M; Orumaa, A; Jogiste, K; Berninger, F; Koster, K

Long-term effects of forest fires on soil greenhouse gas emissions and extracellular enzyme activities in a hemiboreal forest

SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2019.135291

Sanden, H; Mayer, M; Stark, S; Sanden, T; Nilsson, LO; Jepsen, JU; Wali, PR; Rewald, B

Moth Outbreaks Reduce Decomposition in Subarctic Forest Soils

ECOSYSTEMS, 10.1007/s10021-019-00394-6

Siljanen, HMP; Welti, N; Voigt, C; Heiskanen, J; Biasi, C; Martikainen, PJ

Atmospheric impact of nitrous oxide uptake by boreal forest soils can be comparable to that of methane uptake

PLANT AND SOIL, 10.1007/s11104-020-04638-6

Song, MY; Yu, L; Fu, SL; Korpelainen, H; Li, CY

Stoichiometric flexibility and soil bacterial communities respond to nitrogen fertilization and neighbor competition at the early stage of primary succession

BIOLOGY AND FERTILITY OF SOILS, 10.1007/s00374-020-01495-4

Stark, S; Martz, F; Ovaskainen, A; Vuosku, J; Männistö, MK; Rautio, P

Ice-on-snow and compacted and absent snowpack exert contrasting effects on soil carbon cycling in a northern boreal forest

SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107983

Sutinen, R; Middleton, M

Soil water drives distribution of northern boreal conifers Picea abies and Pinus sylvestris

JOURNAL OF HYDROLOGY, 10.1016/j.jhydrol.2020.125048

Törmänen, T; Lindroos, AJ; Kitunen, V; Smolander, A

Logging residue piles of Norway spruce, Scots pine and silver birch in a clear-cut: Effects on nitrous oxide emissions and soil percolate water nitrogen

SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.139743

Uusitalo, J; Ala-Illomaki, J; Lindeman, H; Toivio, J; Siren, M

Predicting rut depth induced by an 8-wheeled forwarder in fine-grained boreal forest soils

ANNALS OF FOREST SCIENCE, 10.1007/s13595-020-00948-y

Zhang-Turpeinen, H; Kivimäenpää, M; Aaltonen, H; Berninger, F; Koster, E; Koster, K; Menyailo, O; Prokushkin, A; Pumpanen, J

Wildfire effects on BVOC emissions from boreal forest floor on permafrost soil in Siberia

SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2019.134851

Zhu, XD; Zhu, TT; Pumpanen, J; Palviainen, M; Zhou, X; Kulmala, L; Bruckman, VJ; Koster, E; Aaltonen, H; Makita, N; Wang, YY; Berninger, F; Koster, K

Short-term effects of biochar on soil CO₂ efflux in boreal Scots pine forests

ANNALS OF FOREST SCIENCE, 10.1007/s13595-020-00960-2

Zuquim, G; Costa, FRC; Tuomisto, H; Moulatlet, GM; Figueiredo, FOG

The importance of soils in predicting the future of plant habitat suitability in a tropical forest

PLANT AND SOIL, 10.1007/s11104-018-03915-9

Maatalousmaat

Asfaw, B; Aserse, AA; Asefa, F; Yli-Halla, M; Lindström, K

Genetically diverse lentil- and faba bean-nodulating rhizobia are present in soils across Central and Southern Ethiopia
FEMS MICROBIOLOGY ECOLOGY, 10.1093/femsec/fiaa015

Banks, R; Wendling, L; Basford, K; Ringrose-Voase, A; Banks, V

Beneficial soil profile differences associated with tropical grass pastures on sodic texture contrast soils in Northern New South Wales

SOIL RESEARCH, 10.1071/SR19140

Bi, QF; Li, KJ; Zheng, BX; Liu, XP; Li, HZ; Jin, BJ; Ding, K; Yang, XR; Lin, XY; Zhu, YG

Partial replacement of inorganic phosphorus (P) by organic manure reshapes phosphate mobilizing bacterial community and promotes P bioavailability in a paddy soil

SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2019.134977

Dong, LL; Berg, B; Sun, T; Wang, ZW; Han, XG

Response of fine root decomposition to different forms of N deposition in a temperate grassland

SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107845

Hakala, KP; Yli-Halla, MJ; Tuomainen, PM; Hartikainen, H

Persistence of fluazinam in soil under boreal conditions

JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH PART B-PESTICIDES FOOD CONTAMINANTS AND AGRICULTURAL WASTES, 10.1080/03601234.2020.1729631

Heikkinen, J; Keskinen, R; Regina, K; Honkanen, H; Nuutinen, V

Estimation of carbon stocks in boreal cropland soils - methodological considerations

EUROPEAN JOURNAL OF SOIL SCIENCE, 10.1111/ejss.13033

Legay, N; Clement, JC; Grassein, F; Lavorel, S; Lemauviel-Lavenant, S; Personeni, E; Poly, F; Pommier, T; Robson, TM; Mouhamadou, B; Binet, MN

Plant growth drives soil nitrogen cycling and N-related microbial activity through changing root traits

FUNGAL ECOLOGY, 10.1016/j.funeco.2019.100910

Li, HH; Penttinen, P; Mikkonen, A; Stoddard, FL; Lindstrom, K

Response of Soil Bacterial Community Diversity and Composition to Time, Fertilization, and Plant Species in a Sub-Boreal Climate

FRONTIERS IN MICROBIOLOGY, 10.3389/fmicb.2020.01780

Li, HZ; Bi, QF; Yang, K; Lasson, SB; Zheng, BX; Cui, L; Zhu, YG; Ding, K

High starter phosphorus fertilization facilitates soil phosphorus turnover by promoting microbial functional interaction in an arable soil

JOURNAL OF ENVIRONMENTAL SCIENCES, 10.1016/j.jes.2020.03.040

Li, Y; Li, Z; Chang, SX; Cui, S; Jagadamma, S; Zhang, QP; Cai, YJ

Residue retention promotes soil carbon accumulation in minimum tillage systems: Implications for conservation agriculture

SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.140147

Lind, SE; Virkajarvi, P; Hyvonen, NP; Maljanen, M; Kivimäenpää, M; Jokinen, S; Antikainen, S; Latva, M; Räty, M; Martikainen, PJ; Shurpali, NJ

Carbon dioxide and methane exchange of a perennial grassland on a boreal mineral soil

BOREAL ENVIRONMENT RESEARCH

Joon, NK; Ek, P; Zevenhoven, M; Hupa, L; Miro, M; Bobacka, J; Lisak, G

On-line microcolumn-based dynamic leaching method for investigation of lead bioaccessibility in shooting range soils

CHEMOSPHERE, 10.1016/j.chemosphere.2020.127022

Mehdizadeh, S; Fathian, F; Safari, MJS; Khosravi, A

Developing novel hybrid models for estimation of daily soil temperature at various depths

SOIL & TILLAGE RESEARCH, 10.1016/j.still.2019.104513

Palojarvi, A; Kellock, M; Parikka, P; Jauhainen, L; Alakukku, L

Tillage System and Crop Sequence Affect Soil Disease Suppressiveness and Carbon Status in Boreal Climate

FRONTIERS IN MICROBIOLOGY, 10.3389/fmicb.2020.534786

Purola, T; Lehtonen, H

Evaluating profitability of soil-renovation investments under crop rotation constraints in Finland

AGRICULTURAL SYSTEMS, 10.1016/j.agrysys.2019.102762

Reichenau, TG; Korres, W; Schmidt, M; Graf, A; Welp, G; Meyer, N; Stadler, A; Brogi, C; Schneider, K
A comprehensive dataset of vegetation states, fluxes of matter and energy, weather, agricultural management, and soil properties from intensively monitored crop sites in western Germany
EARTH SYSTEM SCIENCE DATA, 10.5194/essd-12-2333-2020

Rieff, GG; Natal-da-Luz, T; Renaud, M; Azevedo-Pereira, HMVS; Chichorro, F; Schmelz, RM; de Sa, ELS; Sousa, JP
Impact of no-tillage versus conventional maize plantation on soil mesofauna with and without the use of a lambda-cyhalothrin based insecticide: A terrestrial model ecosystem experiment
APPLIED SOIL ECOLOGY, 10.1016/j.apsoil.2019.103381

Risch, AC; Zimmermann, S; Moser, B; Schutz, M; Hagedorn, F; Firn, J; Fay, PA; Adler, PB; Biederman, LA; Blair, JM; Borer, ET; Broadbent, AAD; Brown, CS; Cadotte, MW; Caldeira, MC; Davies, KF; di Virgilio, A; Eisenhauer, N; Eskelinen, A; Knops, JMH; MacDougall, AS; McCulley, RL; Melbourne, BA; Moore, JL; Power, SA; Prober, SM; Seabloom, EW; Siebert, J; Silveira, ML; Speziale, KL; Stevens, CJ; Tognetti, PM; Virtanen, R; Yahdjian, L; Ochoa-Hueso, R
Global impacts of fertilization and herbivore removal on soil net nitrogen mineralization are modulated by local climate and soil properties
GLOBAL CHANGE BIOLOGY, 10.1111/gcb.15308

Rutgersson, C; Ebmeyer, S; Lassen, SB; Karkman, A; Fick, J; Kristiansson, E; Brandt, KK; Flach, CF; Larsson, DGJ
Long-term application of Swedish sewage sludge on farmland does not cause clear changes in the soil bacterial resistome
ENVIRONMENT INTERNATIONAL, 10.1016/j.envint.2019.105339

Räty, M; Järvenranta, K; Saarijärvi, E; Koskiaho, J; Virkajärvi, P
Losses of phosphorus, nitrogen, dissolved organic carbon and soil from a small agricultural and forested catchment in east-central Finland
AGRICULTURE ECOSYSTEMS & ENVIRONMENT, 10.1016/j.agee.2020.107075

Saarnio, S; Kettunen, R
Biochar addition affected nutrient leaching and litter decomposition rates in boreal sandy soils
AGRICULTURAL AND FOOD SCIENCE

Soinne, H; Keskinen, R; Heikkilä, J; Hyvälä, J; Uusitalo, R; Peltoniemi, K; Velmala, S; Pennanen, T; Fritze, H; Kaseva, J; Hannula, M; Rasa, K
Are there environmental or agricultural benefits in using forest residue biochar in boreal agricultural clay soil?
SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.138955

Soinne, H; Keskinen, R; Räty, M; Kanerva, S; Turtola, E; Kaseva, J; Nuutinen, V; Simojoki, A; Salo, T
Soil organic carbon and clay content as deciding factors for net nitrogen mineralization and cereal yields in boreal mineral soils
EUROPEAN JOURNAL OF SOIL SCIENCE, 10.1111/ejss.13003

Turunen, M; Hyvälä, J; Heikkilä, J; Keskinen, R; Kaseva, J; Hannula, M; Rasa, K
Quantifying the pore structure of different biochars and their impacts on the water retention properties of Sphagnum moss growing media
BIOSYSTEMS ENGINEERING, 10.1016/j.biosystemseng.2020.01.006

Turunen, M; Turtola, E; Vaaja, MT; Hyvälä, J; Koivusalo, H
Terrestrial laser scanning data combined with 3D hydrological modeling decipher the role of tillage in field water balance and runoff generation
CATENA, 10.1016/j.catena.2019.104363

Valkama, E; Kunypiava, G; Zhabayev, R; Karabayev, M; Zhusupbekov, E; Perego, A; Schillaci, C; Sacco, D; Moretti, B; Grignani, C; Acutis, M
Can conservation agriculture increase soil carbon sequestration? A modelling approach
GEODERMA, 10.1016/j.geoderma.2020.114298

Yli-Halla, M; Virtanen, S; Regina, K; Österholm, P; Ehnlund, B; Uusi-Kämppä, J
Nitrogen stocks and flows in an acid sulfate soil
ENVIRONMENTAL MONITORING AND ASSESSMENT, 10.1007/s10661-020-08697-1

Zhao, P; Pumpanen, J; Kang, SZ
Spatio-temporal variability and controls of soil respiration in a furrow-irrigated vineyard
SOIL & TILLAGE RESEARCH, 10.1016/j.still.2019.104424

Turvemaat ja orgaaniset maat

Adamczyk, S; Larmola, T; Peltoniemi, K; Laiho, R; Nasholm, T; Adamczyk, B

An optimized method for studying fungal biomass and necromass in peatlands via chitin concentration

SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107932

Ahmad, S; Liu, H; Beyer, F; Klove, B; Lennartz, B

Spatial heterogeneity of soil properties in relation to microtopography in a non-tidal rewetted coastal mire

MIRES AND PEAT, 10.19189/MaP.2019.GDC.StA.1779

Autio, A; Ala-Aho, P; Ronkanen, AK; Rossi, PM; Klove, B

Implications of Peat Soil Conceptualization for Groundwater Exfiltration in Numerical Modeling: A Study on a Hypothetical Peatland Hillslope

WATER RESOURCES RESEARCH, 10.1029/2019WR026203

Bengtsson, F; Rydin, H; Baltzer, JL; Bragazza, L; Bu, ZJ; Caporn, SJM; Dorrepaal, E; Flatberg, Kl; Galanina, O; Galka, M; Ganeva, A; Goia, I; Goncharova, N; Hajek, M; Haraguchi, A; Harris, LI; Humphreys, E; Jirousek, M; Kajukalo, K; Karofeld, E; Koronatova, NG; Kosykh, NP; Laine, AM; Lamentowicz, M; Lapshina, E; Limpens, J; Linkosalmi, M; Ma, JZ; Mauritz, M; Mitchell, EAD; Munir, TM; Natali, SM; Natcheva, R; Payne, RJ; Philippov, DA; Rice, SK; Robinson, S; Robroek, BJM; Rochefort, L; Singer, D; Stenoien, HK; Tuittila, ES; Vellak, K; Waddington, JM; Granath, G

Environmental drivers of Sphagnum growth in peatlands across the Holarctic region

JOURNAL OF ECOLOGY, 10.1111/1365-2745.13499

Bergna, D; Hu, T; Prokkola, H; Romar, H; Lassi, U

Effect of Some Process Parameters on the Main Properties of Activated Carbon Produced from Peat in a Lab-Scale Process

WASTE AND BIOMASS VALORIZATION, 10.1007/s12649-019-00584-2

Buschmann, C; Roder, N; Berglund, K; Berglund, O; Laerke, PE; Maddison, M; Mander, U; Myllys, M; Osterburg, B; van den Akker, JH

Perspectives on agriculturally used drained peat soils: Comparison of the socioeconomic and ecological business environments of six European regions

LAND USE POLICY, 10.1016/j.landusepol.2019.104181

Chaudhary, N; Westermann, S; Lamba, S; Shurpali, N; Sannel, BK; Schurgers, G; Miller, PA; Smith, B

Modelling past and future peatland carbon dynamics across the pan-Arctic

GLOBAL CHANGE BIOLOGY, 10.1111/gcb.15099

Choi, RT; Beard, KH; Kelsey, KC; Leffler, AJ; Schmutz, JA; Welker, JM

Early Goose Arrival Increases Soil Nitrogen Availability More Than an Advancing Spring in Coastal Western Alaska

ECOSYSTEMS, 10.1007/s10021-019-00472-9

Deshmukh, CS; Julius, D; Evans, CD; Nardi; Susanto, AP; Page, SE; Gauci, V; Lauren, A; Sabiham, S; Agus, F; Asyhari, A; Kurnianto, S; Suardiwerianto, Y; Desai, AR

Impact of forest plantation on methane emissions from tropical peatland

GLOBAL CHANGE BIOLOGY, 10.1111/gcb.15019

Heiderscheidt, E; Leiviska, T; Lopez, FC; Tesfamariam, A; Postila, H

Suitability of natural and chemically modified peat as a sorbent material for mining water purification in small-scale pilot systems

ENVIRONMENTAL TECHNOLOGY, 10.1080/09593330.2020.1812007

Heiskanen, J; Hallikainen, V; Salmivaara, A; Uusitalo, J; Ilvesniemi, H

Predictive models to determine fine soil fractions and organic matter from readily available soil and terrain data of soils under boreal forest

GEODERMA REGIONAL, 10.1016/j.geodrs.2019.e00251

Helbig, M; Waddington, JM; Alekseychik, P; Amiro, B; Aurela, M; Barr, AG; Black, TA; Carey, SK; Chen, JQ; Chi, JS; Desai, AR;

Dunn, A; Euskirchen, ES; Flanagan, LB; Friberg, T; Garneau, M; Grelle, A; Harder, S; Heliasz, M; Humphreys, ER; Ikawa, H; Isabelle, PE; Iwata, H; Jassal, R; Korkiakoski, M; Kurbatova, J; Kutzbach, L; Lapshina, E; Lindroth, A; Lofvenius, MO; Lohila, A; Mammarella, I; Marsh, P; Moore, PA; Maximov, T; Nadeau, DF; Nicholls, EM; Nilsson, MB; Ohta, T; Peichl, M; Petrone, RM; Prokushkin, A; Quinton, WL; Roulet, N; Runkle, BRK; Sonnentag, O; Strachan, IB; Taillardat, P; Tuittila, ES; Tuovinen, JP; Turner, J; Ueyama, M; Varlagin, A; Vesala, T; Wilmking, M; Zyrianov, V; Schulze, C

The biophysical climate mitigation potential of boreal peatlands during the growing season

ENVIRONMENTAL RESEARCH LETTERS, 10.1088/1748-9326/abab34

Helbig, M; Waddington, JM; Alekseychik, P; Amiro, BD; Aurela, M; Barr, AG; Black, TA; Blanken, PD; Carey, SK; Chen, JQ; Chi, JS; Desai, AR; Dunn, A; Euskirchen, ES; Flanagan, LB; Forbrich, I; Friberg, T; Grelle, A; Harder, S; Heliasz, M; Humphreys, ER; Ikawa, H; Isabelle, PE; Iwata, H; Jassal, R; Korkiakoski, M; Kurbatova, J; Kutzbach, L; Lindroth, A; Lofvenius, MO; Lohila, A; Mammarella, I; Marsh, P; Maximov, T; Melton, JR; Moore, PA; Nadeau, DF; Nicholls, EM; Nilsson, MB; Ohta, T; Peichl, M; Petrone, RM; Petrov, R; Prokushkin, A; Quinton, WL; Reed, DE; Roulet, NT; Runkle, BRK; Sonnentag, O; Strachan, IB; Taillardat, P; Tuittila, ES; Tuovinen, JP; Turner, J; Ueyama, M; Varlagin, A; Wilming, M; Wofsy, SC; Zyrianov, V

Increasing contribution of peatlands to boreal evapotranspiration in a warming climate

NATURE CLIMATE CHANGE, 10.1038/s41558-020-0763-7

Hugelius, G; Loisel, J; Chadburn, S; Jackson, RB; Jones, M; MacDonald, G; Marushchak, M; Olefeldt, D; Packalen, M; Siewert, MB; Treat, C; Turetsky, M; Voigt, C; Yu, ZC

Large stocks of peatland carbon and nitrogen are vulnerable to permafrost thaw

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA,

10.1073/pnas.1916387117

Hyttönen, J; Hokk, H

Comparison of granulated and loose ash in fertilisation of Scots pine on peatland

SILVA FENNICA, 10.14214/sf.10259

Juottonen, H

Disentangling the effects of methanogen community and environment on peatland greenhouse gas production by a reciprocal transplant experiment

FUNCTIONAL ECOLOGY, 10.1111/1365-2435.13536

Khan, UA; Kujala, K; Planer-Friedrich, B; Räisänen, ML; Ronkanen, AK

Long-term data reveals the importance of hydraulic load and inflow water quality for Sb removal in boreal treatment peatlands

ECOLOGICAL ENGINEERING

10.1016/j.ecoleng.2020.105785

Kiheri, H; Velmala, S; Pennanen, T; Timonen, S; Sietio, OM; Fritze, H; Heinonsalo, J; van Dijk, N; Dise, N; Larmola, T

Fungal colonization patterns and enzymatic activities of peatland ericaceous plants following long-term nutrient addition

SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107833

Korkiakoski, M; Ojanen, P; Penttilä, T; Minkkinen, K; Sarkkola, S; Rainne, J; Laurila, T; Lohila, A

Impact of partial harvest on CH₄ and N₂O balances of a drained boreal peatland forest

AGRICULTURAL AND FOREST METEOROLOGY, 10.1016/j.agrformet.2020.108168

Kujala, K; Besold, J; Mikkonen, A; Tiirila, M; Planer-Friedrich, B

Abundant and diverse arsenic-metabolizing microorganisms in peatlands treating arsenic-contaminated mining wastewaters

ENVIRONMENTAL MICROBIOLOGY, 10.1111/1462-2920.14922

Kämäräinen, A; Jokinen, K; Linden, L

Adding Sphagnum to peat growing medium improves plant performance under water restricting conditions

MIRES AND PEAT, 10.19189/MaP.2019.OMB.399

Leppä, K; Korkiakoski, M; Nieminen, M; Laiho, R; Hotanen, JP; Kieloaho, AJ; Korpela, L; Laurila, T; Lohila, A; Minkkinen, K; Mäkipää, R; Ojanen, P; Pearson, M; Penttilä, T; Tuovinen, JP; Launiainen, S

Vegetation controls of water and energy balance of a drained peatland forest: Responses to alternative harvesting practices

AGRICULTURAL AND FOREST METEOROLOGY, 10.1016/j.agrformet.2020.108198

Miettinen, J; Ollikainen, M; Aroviita, J; Haikarainen, S; Nieminen, M; Turunen, J; Valsta, L

Boreal peatland forests: ditch network maintenance effort and water protection in a forest rotation framework

CANADIAN JOURNAL OF FOREST RESEARCH, 10.1139/cjfr-2019-0339

Minkkinen, K; Ojanen, P; Koskinen, M; Penttilä, T

Nitrous oxide emissions of undrained, forestry-drained, and rewetted boreal peatlands

FOREST ECOLOGY AND MANAGEMENT, 10.1016/j.foreco.2020.118494

Mustajoki, J; Saarikoski, H; Belton, V; Hjerpe, T; Marttunen, M

Utilizing ecosystem service classifications in multi-criteria decision analysis - Experiences of peat extraction case in Finland

ECOSYSTEM SERVICES, 10.1016/j.ecoser.2019.101049

Nieminen, M; Sarkkola, S; Tolvanen, A; Tervahauta, A; Saarimaa, M; Sallantaus, T

Water quality management dilemma: Increased nutrient, carbon, and heavy metal exports from forestry-drained peatlands restored for use as wetland buffer areas

FOREST ECOLOGY AND MANAGEMENT, 10.1016/j.foreco.2020.118089

Morel, X; Hansen, B; Delire, C; Ambus, P; Mastepanov, M; Decharme, B
A new dataset of soil carbon and nitrogen stocks and profiles from an instrumented Greenlandic fen designed to evaluate land-surface models
EARTH SYSTEM SCIENCE DATA, 10.5194/essd-12-2365-2020

Ojanen, P; Minkkinen, K
Rewetting Offers Rapid Climate Benefits for Tropical and Agricultural Peatlands But Not for Forestry-Drained Peatlands
GLOBAL BIOGEOCHEMICAL CYCLES, 10.1029/2019GB006503

Piilo, SR; Korhola, A; Heiskanen, L; Tuovinen, JP; Aurela, M; Juutinen, S; Marttila, H; Saari, M; Tuittila, ES; Turunen, J; Välimäki, MM
Spatially varying peatland initiation, Holocene development, carbon accumulation patterns and radiative forcing within a subarctic fen
QUATERNARY SCIENCE REVIEWS, 10.1016/j.quascirev.2020.106596

Repo, T; Domisch, T; Kilpeläinen, J; Piirainen, S; Silvennoinen, R; Lehto, T
Dynamics of fine-root production and mortality of Scots pine in waterlogged peat soil during the growing season
CANADIAN JOURNAL OF FOREST RESEARCH, 10.1139/cjfr-2019-0163

Secco, ED; Haimi, J; Vähäkuopus, T; Ojala, A; Valpola, S; Meissner, K
Testate amoebae as a potential tracer of organic matter dislodged from peat extraction areas
BOREAL ENVIRONMENT RESEARCH

Strakova, P; Larmola, T; Andres, J; Ilola, N; Launiainen, P; Edwards, K; Minkkinen, K; Laiho, R
Quantification of Plant Root Species Composition in Peatlands Using FTIR Spectroscopy
FRONTIERS IN PLANT SCIENCE, 10.3389/fpls.2020.00597

Tolvanen, A; Tarvainen, O; Laine, AM
Soil and water nutrients in stem-only and whole-tree harvest treatments in restored boreal peatlands
RESTORATION ECOLOGY, 10.1111/rec.13261

Urzainki, I; Lauren, A; Palviainen, M; Haahti, K; Budiman, A; Basuki, I; Netzer, M; Hokka, H
Canal blocking optimization in restoration of drained peatlands
BIOGEOSCIENCES, 10.5194/bg-17-4769-2020

Virpiranta, H; Banasik, M; Taskila, S; Leiviska, T; Halttu, M; Sotaniemi, VH; Tanskanen, J
Isolation of Efficient Metal-Binding Bacteria from Boreal Peat Soils and Development of Microbial Biosorbents for Improved Nickel Scavenging
WATER, 10.3390/w12072000

Vähäkuopus, T; Kauppila, T; Mäkinen, J; Ojala, AEK; Valpola, SE
Sedimentation Patterns of Multiple Finnish Lakes Reveal the Main Environmental Stressors and the Role of Peat Extraction in Lake Sedimentation
GEOSCIENCES, 10.3390/geosciences10080313

Arktinen alue

DeFranco, KC; Ricketts, MP; Blanc-Betes, E; Welker, JM; Gonzalez-Meler, MA; Sturchio, NC
Deeper snow increases the net soil organic carbon accrual rate in moist acidic tussock tundra:Pb-210 evidence from Arctic Alaska
ARCTIC ANTARCTIC AND ALPINE RESEARCH, 10.1080/15230430.2020.1802864

Gadkari, PS; McGuinness, LR; Männistö, MK; Kerkhof, LJ; Häggblom, MM
Arctic tundra soil bacterial communities active at subzero temperatures detected by stable isotope probing
FEMS MICROBIOLOGY ECOLOGY, 10.1093/femsec/fiz192

Keuper, F; Wild, B; Kummu, M; Beer, C; Blume-Werry, G; Fontaine, S; Gavazov, K; Gentsch, N; Guggenberger, G; Hugelius, G; Jalava, M; Koven, C; Krab, EJ; Kuhry, P; Monteux, S; Richter, A; Shahzad, T; Weedon, JT; Dorrepaal, E
Carbon loss from northern circumpolar permafrost soils amplified by rhizosphere priming
NATURE GEOSCIENCE, 10.1038/s41561-020-0607-0

Kilpelainen, J; Aphalo, PJ; Lehto, T
Temperature affected the formation of arbuscular mycorrhizas and ectomycorrhizas in Populus angustifolia seedlings more than a mild drought
SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107798

Kosunen, M; Peltoniemi, K; Pennanen, T; Lyytikäinen-Saarenmaa, P; Adamczyk, B; Fritze, H; Zhou, X; Starr, M
Storm and Ips typographus disturbance effects on carbon stocks, humus layer carbon fractions and microbial community composition in boreal Picea abies stands
SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107853

Kytöviita, MM; Vestberg, M
Soil legacy determines arbuscular mycorrhizal spore bank and plant performance in the low Arctic
MYCORRHIZA, 10.1007/s00572-020-00977-5

Sun, Y; Romantschuk, M; Bang-Andreasen, T; Rantalainen, AL; Sinkkonen, A
Nitrogen fertilizers stimulate desorption and biodegradation of gasoline aromatics in the soil from high Arctic permafrost active layer: A laboratory study
INTERNATIONAL BIODETERIORATION & BIODEGRADATION, 10.1016/j.ibiod.2020.104957

Vaisanen, M; Krab, EJ; Monteux, S; Teuber, LM; Gavazov, K; Weedon, JT; Keuper, F; Dorrepaal, E
Meshes in mesocosms control solute and biota exchange in soils: A step towards disentangling (a)biotic impacts on the fate of thawing permafrost
APPLIED SOIL ECOLOGY, 10.1016/j.apsoil.2020.103537

Zhou, X; Sun, H; Sietiö, OM; Pumpanen, J; Heinonsalo, J; Koster, K; Berninger, F
Wildfire effects on soil bacterial community and its potential functions in a permafrost region of Canada
APPLIED SOIL ECOLOGY, 10.1016/j.apsoil.2020.103713

Kaupunkimaat ja haitta-aineet

Abrego, N; Crosier, B; Somervuo, P; Ivanova, N; Abrahamyan, A; Abdi, A; Hamalainen, K; Junninen, K; Maunula, M; Purhonen, J; Ovaskainen, O
Fungal communities decline with urbanization-more in air than in soil
ISME JOURNAL, 10.1038/s41396-020-0732-1

Fuller, AJ; Leary, P; Gray, ND; Davies, HS; Mosselmans, JFW; Cox, F; Robinson, CH; Pittman, JK; McCann, CM; Muir, M; Graham, MC; Utsunomiya, S; Bower, WR; Morris, K; Shaw, S; Bots, P; Livens, FR; Law, GTW
Organic complexation of U(VI) in reducing soils at a natural analogue site: Implications for uranium transport
CHEMOSPHERE, 10.1016/j.chemosphere.2020.126859

Huang, J; Kang, SC; Yin, RS; Guo, JM; Lepak, R; Mika, S; Tripathee, L; Sun, SW
Mercury isotopes in frozen soils reveal transboundary atmospheric mercury deposition over the Himalayas and Tibetan Plateau
ENVIRONMENTAL POLLUTION, 10.1016/j.envpol.2019.113432

Li, XG; Xiao, J; Salam, MMA; Ma, CX; Chen, GC
Impacts of bamboo biochar on the phytoremediation potential of Salix psammophila grown in multi-metals contaminated soil
INTERNATIONAL JOURNAL OF PHYTOREMEDIATION, 10.1080/15226514.2020.1816893

Lopez-Echartea, E; Strejcek, M; Mukherjee, S; Uhlik, O; Yrjälä, K
Bacterial succession in oil-contaminated soil under phytoremediation with poplars
CHEMOSPHERE, 10.1016/j.chemosphere.2019.125242

Lu, CY; Kotze, DJ; Setälä, HM
Soil sealing causes substantial losses in C and N storage in urban soils under cool climate
SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.138369

Pflugmacher, S; Huttunen, JH; von Wolff, MA; Penttinen, OP; Kim, YJ; Kim, S; Mitrovic, SM; Esterhuizen-Londt, M
Enchytraeus crypticus Avoid Soil Spiked with Microplastic
TOXICS, 10.3390/toxics8010010

Rainio, MJ; Margus, A; Virtanen, V; Lindström, L; Salminen, JP; Saikonen, K; Helander, M
Glyphosate-based herbicide has soil-mediated effects on potato glycoalkaloids and oxidative status of a potato pest
CHEMOSPHERE, 10.1016/j.chemosphere.2020.127254

Scopetani, C; Chelazzi, D; Mikola, J; Leinö, V; Heikkilä, R; Cincinelli, A; Pellinen, J
Olive oil -based method for the extraction, quantification and identification of microplastics in soil and compost samples
SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.139338

Selonen, S; Dolar, A; Kokalj, AJ; Skalar, T; Dolcet, LP; Hurley, R; van Gestel, CAM
Exploring the impacts of plastics in soil - The effects of polyester textile fibers on soil invertebrates
SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2019.134451

Yao, WK; Cai, ZP; Sun, SY; Romantschuk, M; Sinkkonen, A; Sun, Y; Wang, Q
Electrokinetic-enhanced remediation of actual arsenic-contaminated soils with approaching cathode and Fe-0 permeable reactive barrier
JOURNAL OF SOILS AND SEDIMENTS, 10.1007/s11368-019-02459-4

Maaperäbiologia

Agathokleous, E; Feng, ZZ; Oksanen, E; Sicard, P; Wang, Q; Saitanis, CJ; Araminiene, V; Blande, JD; Hayes, F; Calatayud, V; Domingos, M; Veresoglou, SD; Penuelas, J; Wardle, DA; De Marco, A; Li, ZZ; Harmens, H; Yuan, XY; Vitale, M; Paoletti, E
Ozone affects plant, insect, and soil microbial communities: A threat to terrestrial ecosystems and biodiversity
SCIENCE ADVANCES, 10.1126/sciadv.abc1176

Erwin, GS; Heikkinen, J; Halimaa, P; Haber, CL
Streptomyces lasalocidi sp. nov. (formerly 'Streptomyces lasaliensis'), an actinomycete isolated from soil which produces the polyether antibiotic lasalocid
INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY, 10.1099/ijsem.0.004135

Gravuer, K; Eskelinen, A; Winbourne, JB; Harrison, SP
Vulnerability and resistance in the spatial heterogeneity of soil microbial communities under resource additions
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, 10.1073/pnas.1908117117

Pioli, S; Sarneel, J; Thomas, HJD; Domene, X; Andres, P; Hefting, M; Reitz, T; Laudon, H; Sanden, T; Piscova, V; Aurela, M; Brusetti, L
Linking plant litter microbial diversity to microhabitat conditions, environmental gradients and litter mass loss: Insights from a European study using standard litter bags
SOIL BIOLOGY & BIOCHEMISTRY, 10.1016/j.soilbio.2020.107778

Tedersoo, L; Anslan, S; Bahram, M; Drenkhan, R; Pritsch, K; Buegger, F; Padari, A; Hagh-Doust, N; Mikryukov, V; Gohar, D; Amiri, R; Hiiesalu, I; Lutter, R; Rosenvald, R; Rahn, E; Adamson, K; Drenkhan, T; Tullus, H; Jurimaa, K; Sibul, I; Otsing, E; Polme, S; Metslaid, M; Loit, K; Agan, A; Puusepp, R; Varik, I; Koljalg, U; Abarenkov, K
Regional-Scale In-Depth Analysis of Soil Fungal Diversity Reveals Strong pH and Plant Species Effects in Northern Europe
FRONTIERS IN MICROBIOLOGY, 10.3389/fmicb.2020.01953

van den Hoogen, J; Geisen, S; Wall, DH; Wardle, DA; Traunspurger, W; de Goede, RGM; Adams, BJ; Ahmad, W; Ferris, H; Bardgett, RD; Bonkowski, M; Campos-Herrera, R; Cares, JE; Caruso, T; Caixeta, LD; Chen, XY; Costa, SR; Creamer, R; Castro, JMDE; Dam, M; Djigal, D; Escuer, M; Griffiths, BS; Gutierrez, C; Hohberg, K; Kalinkina, D; Kardol, P; Kergunteuil, A; Korthals, G; Krashevská, V; Kudrin, AA; Li, Q; Liang, WJ; Magilton, M; Marais, M; Martin, JAR; Matveeva, E; Mayad, E; Mzough, E; Mulder, C; Mullin, P; Neilson, R; Nguyen, TAD; Nielsen, UN; Okada, H; Rius, JEP; Pan, KW; Peneva, V; Pellissier, L; da Silva, JCP; Pitteloud, C; Powers, TO; Powers, K; Quist, CW; Rasmann, S; Moreno, SS; Scheu, S; Setala, H; Sushchuk, A; Tiunov, AV; Trap, J; Vestergaard, M; Villenave, C; Waeyenberge, L; Wilschut, RA; Wright, DG; Keith, AM; Yang, JI; Schmidt, O; Bouharroud, R; Ferji, Z; van der Putten, WH; Routh, D; Crowther, TW
A global database of soil nematode abundance and functional group composition
SCIENTIFIC DATA, 10.1038/s41597-020-0437-3

Tietokannat

Lawrence, CR; Beem-Miller, J; Hoyt, AM; Monroe, G; Sierra, CA; Stoner, S; Heckman, K; Blankinship, JC; Crow, SE; McNicol, G; Trumbore, S; Levine, PA; Vinduskova, O; Todd-Brown, K; Rasmussen, C; Pries, CEH; Schadel, C; McFarlane, K; Doetterl, S; Hatte, C; He, Y; Treat, C; Harden, JW; Torn, MS; Estop-Aragones, C; Berhe, AA; Keiluweit, M; Kuhnen, ADR; Marin-Spiotta, E; Plante, AF; Thompson, A; Shi, Z; Schimel, JP; Vaughn, LJS; von Fromm, SF; Wagai, R

An open-source database for the synthesis of soil radiocarbon data: International Soil Radiocarbon Database (ISRaD) version 1.0

EARTH SYSTEM SCIENCE DATA, 10.5194/essd-12-61-2020

Lembrechts, JJ; Aalto, J; Ashcroft, MB; De Frenne, P; Kopecky, M; Lenoir, J; Luoto, M; Maclean, IMD; Roupsard, O; Fuentes-Lillo, E; Garcia, RA; Pellissier, L; Pitteloud, C; Alatalo, JM; Smith, SW; Bjork, RG; Muffler, L; Backes, AR; Cesarz, S; Gottschall, F; Okello, J; Urban, J; Plichta, R; Svatek, M; Phartyal, SS; Wipf, S; Eisenhauer, N; Puscas, M; Turtureanu, PD; Varlagin, A; Dimarco, RD; Jump, AS; Randall, K; Dorrepaal, E; Larson, K; Walz, J; Vitale, L; Svoboda, M; Higgens, RF; Halbritter, H; Curasi, SR; Klupar, I; Koontz, A; Pearse, WD; Simpson, E; Stemkovski, M; Graae, BJ; Sorensen, MV; Hoye, TT; Calzado, MRF; Lorite, J; Carbognani, M; Tomaselli, M; Forte, TGW; Petraglia, A; Haesen, S; Somers, B; Van Meerbeek, K; Bjorkman, MP; Hylander, K; Merinero, S; Gharun, M; Buchmann, N; Dolezal, J; Matula, R; Thomas, AD; Bailey, JJ; Ghosn, D; Kazakis, G; de Pablo, MA; Kemppinen, J; Niittynen, P; Rew, L; Seipel, T; Larson, C; Speed, JDM; Ardo, J; Cannone, N; Guglielmin, M; Malfasi, F; Bader, MY; Canessa, R; Stanisci, A; Kreyling, J; Schmeddes, J; Teuber, L; Aschero, V; Ciliak, M; Malis, F; De Smedt, P; Govaert, S; Meeussen, C; Vangansbeke, P; Gigauri, K; Lamprecht, A; Pauli, H; Steinbauer, K; Winkler, M; Ueyama, M; Nunez, MA; Ursu, TM; Haider, S; Wedegartner, REM; Smiljanic, M; Trouillier, M; Wilmking, M; Altman, J; Bruna, J; Hederova, L; Macek, M; Man, M; Wild, J; Vittoz, P; Partel, M; Barancok, P; Kanka, R; Kollar, J; Palaj, A; Barros, A; Mazzolari, AC; Bauters, M; Boeckx, P; Alonso, JLB; Zong, SW; Di Cecco, V; Sitkova, Z; Tielborger, K; van den Brink, L; Weigel, R; Homeier, J; Dahlberg, CJ; Medinets, S; Medinets, V; De Boeck, HJ; Portillo-Estrada, M; Verryckt, LT; Milbau, A; Daskalova, GN; Thomas, HJD; Myers-Smith, IH; Blonder, B; Stephan, JG; Descombes, P; Zellweger, F; Frei, ER; Heinesch, B; Andrews, C; Dick, J; Siebicie, L; Rocha, A; Senior, RA; Rixen, C; Jimenez, JJ; Boike, J; Pauchard, A; Scholten, T; Scheffers, B; Klinges, D; Basham, EW; Zhang, J; Zhang, ZC; Geron, C; Fazlioglu, F; Candan, O; Bravo, JS; Hrbacek, F; Laska, K; Cremonese, E; Haase, P; Moyano, FE; Rossi, C; Nijs, I

SoilTemp: A global database of near-surface temperature

GLOBAL CHANGE BIOLOGY, 10.1111/gcb.15123

Muut maanosat

Gautam, S; Yan, FP; Kang, SC; Han, XW; Neupane, B; Chen, PF; Hu, ZF; Sillanpää, M; Li, CL

Black carbon in surface soil of the Himalayas and Tibetan Plateau and its contribution to total black carbon deposition at glacial region

ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 10.1007/s11356-019-07121-7

Guan, YL; Lu, HW; Yin, C; Xue, YX; Jiang, YL; Kang, Y; He, L; Heiskanen, J

Vegetation response to climate zone dynamics and its impacts on surface soil water content and albedo in China
SCIENCE OF THE TOTAL ENVIRONMENT, 10.1016/j.scitotenv.2020.141537

Räsänen, M; Merbold, L; Vakkari, V; Aurela, M; Laakso, L; Beukes, JP; Van Zyl, PG; Josipovic, M; Feig, G; Pellikka, P; Rinne, J; Katul, GG

Root-zone soil moisture variability across African savannas: From pulsed rainfall to land-cover switches
ECOHYDROLOGY, 10.1002/eco.2213

Sasmito, SD; Kuzyakov, Y; Lubis, AA; Murdiyarno, D; Hutley, LB; Bachri, S; Friess, DA; Martius, C; Borchard, N

Organic carbon burial and sources in soils of coastal mudflat and mangrove ecosystems

CATENA, 10.1016/j.catena.2019.104414

Singhal, A; Goel, S; Sengupta, D

Physicochemical and elemental analyses of sandstone quarrying wastes to assess their impact on soil properties
JOURNAL OF ENVIRONMENTAL MANAGEMENT, 10.1016/j.jenvman.2020.111011

Wachiye, S; Merbold, L; Vesala, T; Rinne, J; Räsänen, M; Leitner, S; Pellikka, P

Soil greenhouse gas emissions under different land-use types in savanna ecosystems of Kenya

BIOGEOSCIENCES, 10.5194/bg-17-2149-2020

Weldegebrsel, L; Kruskopf, M; Thompson, SE; Tebeje, K

Detecting the short term impact of soil and water conservation practices using stage as a proxy for discharge-A case-study from the Tana sub-basin, Ethiopia

LAND DEGRADATION & DEVELOPMENT, 10.1002/ldr.3750