



Literature for MESB01, Earth Systems Science applies from autumn semester 2021

**Literature established by The Board of the Lund University Centre for
Sustainability Studies on 2021-05-20 to apply from 2021-08-25**

See appendix.



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Biogeovetenskap, 10 högskolepoäng

Earth Systems Science, 10 credits

MESB01 litteraturlista fastställd av LUCSUS styrelse den 20 maj 2021.

Course literature

1. Adhikari, K., & Hartemink, A. E. (2016). Linking soils to ecosystem services—A global review. *Geoderma*, 262, 101-111. [11 pages]
2. **Ban, N. C.**, Davies, T. E., Aguilera, S. E., Brooks, C., Cox, M., Epstein, G., Evans, L. S., Maxwell, S. M., & Nenadovic, M. (2017, 2017/03/01). Social and ecological effectiveness of large marine protected areas. *Global Environmental Change*, 43, 82-91.
<https://doi.org/https://doi.org/10.1016/j.gloenvcha.2017.01.003> [10 pages]
3. Bellard, C., Leclerc, C., Leroy, B., Bakkenes, M., Veloz, S., Thuiller, W., & Courchamp, F. (2014). Vulnerability of biodiversity hotspots to global change. *Global Ecology and Biogeography*, 23(12), 1376-1386. [11 pages]
4. **Benítez-López, A.**, Santini, L., Schipper, A. M., Busana, M., & Huijbregts, M. A. J. (2019). Intact but empty forests? Patterns of hunting-induced mammal defaunation in the tropics [Article]. *PLOS Biology*, 17(5). <https://doi.org/10.1371/journal.pbio.3000247> [18 pages]
5. **Bennett, E. M.**, W. Cramer, A. Begossi, G. Cundill, S. Díaz, B. N. Egoh, I. R. Geijzenendorffer, C. B. Krug, S. Lavorel & E. Lazos (2015) Linking biodiversity, ecosystem services, and human well-being: three challenges for designing research for sustainability. *Current opinion in environmental sustainability*, 14, 76-85. [9 pages]
6. Berzaghi, F., Longo, M., Ciais, P., Blake, S., Bretagnolle, F., Vieira, S., Scaranello, M., Scarascia-Mugnozza, G., & Doughty, C. E. (2019). Carbon stocks in central African forests enhanced by

- elephant disturbance. *Nature Geoscience* 12, 725–729.
<https://doi.org/10.1038/s41561-019-0395-6> [7 pages]
7. Bond, W. J., Stevens, N., Midgley, G. F., & Lehmann, C. E. (2019). The trouble with trees: afforestation plans for Africa. *Trends in ecology & evolution*, 34(11), 963-965. [2 pages]
 8. Booth, H., Clark, M., Milner-Gulland, E. J., Amponsah-Mensah, K., Antunes, A. P., Brittain, S., Castilho, L. C., Campos-Silva, J. V., Constantino, P. d. A. L., Li, Y., Mandoloma, L., Nneji, L. M., Iponga, D. M., Moyo, B., McNamara, J., Rakotonarivo, O. S., Shi, J., Tagne, C. T. K., van Velden, J., & Williams, D. R. (2021). Investigating the risks of removing wild meat from global food systems. *Current Biology*, 31(8), 1788-1797.e1783.
<https://doi.org/https://doi.org/10.1016/j.cub.2021.01.079> [10 pages]
 9. Breitburg, D., Levin, L. A., Oschlies, A., Grégoire, M., Chavez, F. P., Conley, D. J., ... & Jacinto, G. S. (2018). Declining oxygen in the global ocean and coastal waters. *Science*, 359(6371). [13 pages]
 10. Campbell, B. M., D. J. Beare, E. M. Bennett, J. M. Hall-Spencer, J. S. Ingram, F. Jaramillo, R. Ortiz, N. Ramankutty, J. A. Sayer & D. Shindell (2017) Agriculture production as a major driver of the Earth system exceeding planetary boundaries. *Ecology and Society*, 22. [11 pages]
 11. Dirzo, R., Young, H. S., Galetti, M., Ceballos, G., Isaac, N. J. B., & Collen, B. (2014, 2014-07-25 00:00:00). Defaunation in the Anthropocene. *Science*, 345(6195), 401-406.
<https://doi.org/10.1126/science.1251817> [5 pages]
 12. Ellis, E. C. (2019). Sharing the land between nature and people. *Science*, 364(6447), 1226-1228.
<https://doi.org/10.1126/science.aax2608> [3 pages]
 13. Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., Hauck, J., Olsen, A., Peters, G. P., Peters, W., Pongratz, J., Sitch, S., Le Quéré, C., Canadell, J. G., Ciais, P., Jackson, R. B., Alin, S., Aragão, L. E. O. C., Arneeth, A., Arora, V., Bates, N. R., Becker, M., Benoit-Cattin, A., Bittig, H. C., Bopp, L., Bultan, S., Chandra, N., Chevallier, F., Chini, L. P., Evans, W., Florentie, L., Forster, P. M., Gasser, T., Gehlen, M., Gilfillan, D., Gkritzalis, T., Gregor, L., Gruber, N., Harris, I., Hartung, K., Haverd, V., Houghton, R. A., Ilyina, T., Jain, A. K., Joetzjer, E., Kadono, K., Kato, E., Kitidis, V., Korsbakken, J. I., Landschützer, P., Lefèvre, N., Lenton, A., Lienert, S., Liu, Z., Lombardozzi, D., Marland, G., Metzl, N., Munro, D. R., Nabel, J. E. M. S., Nakaoka, S. I., Niwa, Y., O'Brien, K., Ono, T., Palmer, P. I., Pierrot, D., Poulter, B., Resplandy, L., Robertson, E., Rödenbeck, C., Schwinger, J., Séférian, R., Skjelvan, I., Smith, A. J. P., Sutton, A. J., Tanhua, T., Tans, P. P., Tian, H., Tilbrook, B., van der Werf, G., Vuichard, N., Walker, A. P., Wanninkhof, R., Watson, A. J., Willis, D., Wiltshire, A. J., Yuan, W., Yue, X., & Zaehle, S. (2020). Global Carbon Budget 2020. *Earth Syst. Sci. Data*, 12(4),

- 3269-3340. <https://doi.org/10.5194/essd-12-3269-2020> [35 pages, excluding supplementary material]
14. Friis, C. (2019). Telecoupling: A New Framework for Researching Land-Use Change in a Globalised World. In Telecoupling (pp. 49-67). Palgrave Macmillan, Cham. [18 pages]
 15. Giakoumi, S., McGowan, J., Mills, M., Beger, M., Bustamante, R. H., Charles, A., Christie, P., Fox, M., Garcia-Borboroglu, P., Gelcich, S., Guidetti, P., Mackelworth, P., Maina, J. M., McCook, L., Micheli, F., Morgan, L. E., Mumby, P. J., Reyes, L. M., White, A., Grorud-Colvert, K., & Possingham, H. P. (2018). Revisiting “Success” and “Failure” of Marine Protected Areas: A Conservation Scientist Perspective [Perspective]. *Frontiers in Marine Science*, 5(223). <https://doi.org/10.3389/fmars.2018.00223> [5 pages]
 16. Gordon, L. J., Bignet, V., Crona, B., Henriksson, P. J., Van Holt, T., Jonell, M., ... & Folke, C. (2017). Rewiring food systems to enhance human health and biosphere stewardship. *Environmental Research Letters*, 12(10), 100201. [13 pages]
 17. Herrmann, S. M., Sall, I., & Sy, O. (2014). People and pixels in the Sahel: a study linking coarse-resolution remote sensing observations to land users’ perceptions of their changing environment in Senegal. *Ecology and Society*, 19(3). [18 pages]
 18. IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio E.S., H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. [56 pages]
 19. Keesstra, S. D., J. Bouma, J. Wallinga, P. Tittonell, P. Smith, A. Cerdà, L. Montanarella, J. N. Quinton, Y. Pachepsky & W. H. Van Der Putten (2016) The significance of soils and soil science towards realization of the United Nations Sustainable Development Goals. *Soil*. [18 pages]
 20. Krause, T., & Tilker, A. (2021). How the loss of forest fauna undermines the achievement of the SDGs. *Ambio*. <https://doi.org/10.1007/s13280-021-01547-5> [11 pages]
 21. Konar, M., Evans, T. P., Levy, M., Scott, C. A., Troy, T. J., Vörösmarty, C. J., & Sivapalan, M. (2016). Water resources sustainability in a globalizing world: who uses the water? *Hydrological Processes*, 30(18), 3330-3336. [6 pages]

22. Lenton, T. M., Rockström, J., Gaffney, O., Rahmstorf, S., Richardson, K., Steffen, W., & Schellnhuber, H. J. (2019). Climate tipping points—too risky to bet against. [1 page]
23. Liu, J., Herzberger, A., Kapsar, K., Carlson, A. K., & Connor, T. (2019). What Is Telecoupling?. In Telecoupling (pp. 19-48). Palgrave Macmillan, Cham. [29 pages]
24. Llovel, W., Purkey, S., Meyssignac, B., Blazquez, A., Kolodziejczyk, N., & Bamber, J. (2019). Global ocean freshening, ocean mass increase and global mean sea level rise over 2005–2015. *Scientific reports*, 9(1), 1-10. [10 pages]
25. Malhi, Y., Doughty, C. E., Galetti, M., Smith, F. A., Svenning, J.-C., & Terborgh, J. W. (2016). Megafauna and ecosystem function from the Pleistocene to the Anthropocene [10.1073/pnas.1502540113]. *Proceedings of the National Academy of Sciences*, 113(4), 838. <https://doi.org/10.1073/pnas.1502540113> [9 pages]
26. Meyfroidt, P., Lambin, E. F., Erb, K. H., & Hertel, T. W. (2013). Globalization of land use: distant drivers of land change and geographic displacement of land use. *Current Opinion in Environmental Sustainability*, 5(5), 438-444. [5 pages]
27. O'Neill, D. W., Fanning, A. L., Lamb, W. F., & Steinberger, J. K. (2018). A good life for all within planetary boundaries. *Nature sustainability*, 1(2), 88-95. [8 pages]
28. Oreskes, N. (2004). The scientific consensus on climate change. *Science*, 306(5702), 1686-1686 [1 page]
29. Raupach, M. R., Davis, S. J., Peters, G. P., Andrew, R. M., Canadell, J. G., Ciais, P., Friedlingstein, P., Jotzo, F., van Vuuren, D. P., & Le Quere, C. (2014, 10//print). Sharing a quota on cumulative carbon emissions [Perspective]. *Nature Clim. Change*, 4(10), 873-879. <https://doi.org/10.1038/nclimate2384> [7 pages]
30. Scanlon, B. R., B. L. Ruddell, P. M. Reed, R. I. Hook, C. Zheng, V. C. Tidwell & S. Siebert (2017) The food-energy-water nexus: Transforming science for society. *Water Resources Research*, 53, 3550-3556. [6 pages]
31. Scown, Murray W., and Kimberly A. Nicholas. "European Agricultural Policy Requires a Stronger Performance Framework to Achieve the Sustainable Development Goals." *Global Sustainability* 3 (2020). <https://doi.org/10.1017/sus.2020.5> [11 pages]
32. Steffen, W., J. Rockström, K. Richardson, T. M. Lenton, C. Folke, D. Liverman, C. P. Summerhayes, A. D. Barnosky, S. E. Cornell & M. Crucifix (2018) Trajectories of the Earth System in the Anthropocene. *Proceedings of the National Academy of Sciences*, 115, 8252-8259. [7 pages]
33. Tóth, G., T. Hermann, M. R. da Silva & L. Montanarella (2018) Monitoring soil for sustainable development and land degradation

- neutrality. Environmental monitoring and assessment, 190, 57. [4 pages]
34. Turner, David. 2018. The Green Marble: Earth System Science and Global Sustainability. Columbia University Press. 328 pages. ISBN-13: 978-0231180610. [Course book: 328 pages]
 35. United Nations Economic Commission for Europe. (2009) "Making Data Meaningful." Chapters 2-5 (pp 7-40 here):
https://unece.org/fileadmin/DAM/stats/documents/writing/MDM_Part2_English.pdf
 36. UNEP 2019. Global Environment Outlook - GEO-6: Healthy Planet, Healthy People. Paul Ekins; Joyeeta Gupta; Pierre Boileau (Editors). Cambridge University Press. Cambridge, UK. Link:
<https://www.unenvironment.org/resources/global-environment-outlook-6>
 - Summary for policy-makers (found here) [28 pages]
 - Regional analysis (found here) [21 pages]
 - Thematic analysis – water (found here) [6 pages]
 - Thematic analysis – Climate action (found here) [5 pages]
 - Thematic analysis – Land and biodiversity (found here) [8 pages]
 37. Verburg, P. H., N. Crossman, E. C. Ellis, A. Heinimann, P. Hostert, O. Mertz, H. Nagendra, T. Sikor, K.-H. Erb & N. Golubiewski (2015) Land system science and sustainable development of the earth system: A global land project perspective. Anthropocene, 12, 29-41. [12 pages]
 38. Vogel, R. M., U. Lall, X. Cai, B. Rajagopalan, P. K. Weiskel, R. P. Hooper & N. C. Matalas (2015) Hydrology: The interdisciplinary science of water. Water Resources Research, 51, 4409-4430. [21 pages]

Required reading

Total number of pages: 857.

Reason for fewer number of references (1000 pages): This is the first course of the LUMES programme, and this course contains learning activities and take home exams that demand extensive literature consultation, reading and evaluation, further increasing the amount of literature students will read.

Author gender balance

Female first-authors in **yellow**.

Suggested complimentary readings (Ellen Fall – Social Science Library)

1. Ouriginal (n.d.). Plagiarism Handbook – a guide for both teachers and students. Available: <https://www.ouriginal.com/plagiarism-handbook/>
2. Kopaczewski, S. Plagiarism. In: Allen, M. (2017). The Sage Encyclopedia of Communication Research Methods, Sage: Thousand Oaks, CA. Available: <http://ludwig.lub.lu.se/login?url=http://methods.sagepub.com/reference/the-sage-encyclopedia-of-communication-research-methods/i10779.xml>