

Prof Marc J. Metzger

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Biosketch - Marc is professor of Environment and Society at The University of Edinburgh. He collaborates with a diverse team of scholars, students, policy makers and practitioners to achieve a more sustainable world. Over the last 15 years Marc has worked in a wide range of interdisciplinary projects focusing on the potential impacts of global environmental change on ecosystems and the services they provide to society. His current research focuses on landscape scale collaboration to understand visions for sustainable land use futures to support planning and regional development. Marc is Director of Postgraduate Research, Deputy Director of the MSc Environmental Sustainability, Chair of the Ecosystem Services Community Scotland, and membership secretary of the ialeUK, the UK chapter of the International Association for Landscape Ecology.

Positions

- 2017 - present
The University of Edinburgh, School of GeoSciences
Director of Postgraduate Research
- 2007 - present
The University of Edinburgh, School of GeoSciences
Professor of Environment and Society (from 2019)
Reader (2016-2019)
Senior Lecturer (2014-2016)
Lecturer (2012-2014)
Senior Research Fellow (2007-2012)
- 2006 - 2010
Alterra, Wageningen UR, The Netherlands
Guest researcher in rural land use dynamics
- 2005 - 2007
Wageningen University, The Netherlands
Environmental Systems Analysis group
Lecturer in Environmental Assessment

Education

- 2001 - 2005
Wageningen University
PhD research on the vulnerability of European ecosystem services to global environmental change
- 1995 - 2000
Wageningen University
MSc in Ecosystem Biology

Research

- ecosystem services
Assessment of the vulnerability of ecosystem services under global change in the EU projects ATEAM and CLIMSAVE (Co-I), OPERAs (deputy coordinator) and the Climate X Change centre (PI) and other collaborations, resulting in 18 papers
- foresight
Developing scenario techniques to assess potential global change impacts on ecosystems and society and explore sustainable development pathways in the EU projects ATEAM, COCONUT, FARO, and VOLANTE (Co-I), resulting in 22 papers.
- biodiversity monitoring
Developing stratification and harmonisation techniques to provide consistent biodiversity measures in Europe and globally in the EU projects BioHab, ALTER-Net and EBONE (PI) and global initiatives GEOSS and GEO BON, resulting in 9 papers.
- publications
Author of 76 peer reviewed scientific papers.
Scopus citation metrics: *h-index* of 29, >4500 citations;
20 papers cited > 50 times. Further citation metrics:
<http://tinyurl.com/ScopusMetzger>

Selected teaching	<ul style="list-style-type: none"> • from - 2016 Director of Postgraduate Research, in charge of the School's 280 PhD student and an annual budget of £500,000. • from 2008 Course development, lecturing and examination in various MSc courses, including <i>Integrated Resource Planning</i>, <i>Human Dimensions of Environmental Change</i>, and the undergraduate course <i>Sustainability, Society and Environment</i>. • from 2006 External PhD examiner at the Aix-Marseille University (2018), University of Lund University (2016), Univeristy of Evora (2016), Maastricht University (2010), Université catholique de Louvain (2006). Internal examiner at The University of Edinburgh frequently since 2010. • from 2003 Supervision and examination of more than 60 MSc dissertations and interns; supervision of 13 PhD students, 8 as first supervisor. (details on my web page) • 2014 Edinburgh University Student Association Teach Award nomination for 'Best Dissertation Supervisor' and 'Best Personal Tutor'. • 2013 - 2016 Programme Director of the <i>Environmental Sustainability</i> MSc, providing academic leaderships for the multidisciplinary programme. • 2013 - 2016 Course Organiser of the <i>Case Studies in Sustainable Development</i> post graduate course • 2012 - 2016 Deputy head Postgraduate Research Training and Development, in charge of the research training and progress for the School's 200 PhD students. • 2012 - 2016 Course Organiser of the <i>Research Planning and Management in the GeoSciences</i> course, providing skills training for 1st year PhD students. • 2012 - 2015 Course Organiser of the <i>Ecosystem Values and Management</i> distance learning post graduate course.
Academic service	<ul style="list-style-type: none"> • ECom Scotland Initiator and chair of the Ecosystem Services Community Scotland, a knowledge exchange collaboration between science, policy and practice. • Scottish Forum on Natural Capital Founding partner and steering group member of this exciting bringing together public, private and voluntary sector organisations • Landscapes for Pandas Partner in the Edinburgh Consortium for Giant Panda Conservation and Forest landscape restoration, a collaboration between the Royal Zoological Society Scotland, Forest Research, the Royal Botanical Garden Edinburgh and Chinese partners to develop a joint learning laboratory to support panda habitat conservation and restoration. • ialeUK Committee member of the UK Chapter of the International Association for Landscape Ecology (since 2009, membership secretary since 2012). Leading the organisation of the 2012 annual conference on <i>Landscape Ecology: Linking Environment and Society</i>. • IPCC Contributing author to the Europe chapter of AR5 WGII using the Environmental Stratification (Metzger <i>et al.</i>, 2005) to assess contrasting trends across Europe ; member of the Dutch government review committee of AR4 WGII. • editorial boards Member of the editorial board of <i>Regional Environmental Change</i> and the <i>Journal of Landscape Ecology</i>, published by the Czech Association for Landscape Ecology (since 2007).

Selected recent publications

- Metzger M.J., Dick J., Gardner A., Bellamy C., Blackstock K., Brown C., Chisholm R., Cochrane P., Drewitt J., Gimona A., Hester A., Mathieson S., Nijnik M., McVittie A., Petr M., Smith R., Smith M. (in press) Knowledge sharing, problem solving and professional development in a Scottish Ecosystem Services Community of Practice. *Regional Environmental Change* in press
- Liski A.H., Ambros P., Metzger M.J., Nicholas K.A., Wilson A.M.W., Krause T. (in press) Governance and stakeholder perspectives of managed re-alignment: adapting to sea level rise in the Inner Forth estuary, Scotland *Regional Environmental Change* in press
- Liski A.H., Koetse M.J., Metzger M.J. (in press) Addressing awareness gaps in environmental valuation: choice experiments with citizens in the Inner Forth, Scotland. *Regional Environmental Change* in press
- Patenaude G., Lautenbach S., Paterson J.S., Locatelli T., Dormann C.F., Metzger M.J., Walz A. (in press) Breaking the Ecosystem Services glass ceiling: operationalising for impact. *Regional Environmental Change* in press
- Burton V., Metzger M.J., Brown, C., Moseley D. (2019) Green Gold to Wild Woodlands; understanding stakeholder visions for woodland expansion in Scotland *Landscape Ecology* 34: 1693-1713.
- Schoonover H.A., Grêt-Regamey A., Metzger M.J., Ruiz-Frau A., Santos-Reis M., Scholte S.S.K., Walz A, Nicholas K.A. (2019) Creating space, aligning motivations, and building trust: A framework for stakeholder engagement based on experience in 12 ecosystem services case studies. *Ecology and Society* 24:11.
- Ainscough J., de Vries Lentsch A., Metzger M., Rounsevell M., Schröter M., Delbaere B., de Groot R., Staes J. (2019) Navigating pluralism: Understanding perceptions of the ecosystem services Concept *Ecosystem Services* 36: 100892.
- Price M.F., Arnesen T., Gloersen E., Metzger M.J. (2019) Mapping Mountain Areas: Learning from Global, European and Norwegian perspectives. *Journal of Mountain Science* 16: 1-15.
- Thomas H.J.D., Paterson J.S., Metzger M.J., Sing L. (2019) An evaluation of Scottish woodland grant schemes using site suitability modelling. *Land Use Policy* 80: 309-317.
- Dan-Jumbo N.G., Metzger M.J., Clark A.P. (2018) Urban Land-Use Dynamics in the Niger Delta: The Case of Greater Port Harcourt Watershed *Urban Science* 2: 108.
- Burton V., Moseley D., Brown, C., Metzger M.J., Bellamy P. (2018) Reviewing the evidence base for the effects of woodland expansion on biodiversity and ecosystem services in the United Kingdom *Forest Ecology and Management* 430: 366-379.
- Claret C., Metzger M.J., Kettunen M., Ten Brink P. (2018) Understanding the integration of ecosystem services and natural capital in Scottish policy *Environmental Science and Policy* 88: 32-38.
- Wawrzyczek J., Lindsay R, Metzger M.J., Quétiér F. (2018) The Ecosystem Approach in ecological impact assessment: lessons learned from wind farm developments on peatland in Scotland *Environmental Impact Assessment Review* 75: 157-165.
- Metzger M.J., Lindner M., Pedrolí B. (2018) Towards a roadmap for sustainable land use in Europe *Regional Environmental Change* 18: 707-713.
- Valluri-Nitsch C., Metzger M.J., McMorran R., Price M.F. (2018) My land? Your land? Scotland?—understanding sectoral similarities and differences in Scottish land use visions. *Regional Environmental Change* 18: 808-816.
- Perez-Soba M., Paterson J., Metzger M.J., Gramberger M., Houtkamp J., Jensen A., Murray-Rust D., Verkerk P.J. (2018) Sketching sustainable land use in Europe by 2040: a multi-stakeholder participatory approach to elicit crosssectoral visions. *Regional Environmental Change* 18: 775-787.
- Metzger M.J., Murray-Rust D., Houtkamp J., Jensen A., Riviere I.L., Paterson J., Perez-Soba M., Valluri-Nitsch C. (2018) How do Europeans want to live in 2040 ? Citizen visions and their consequences for European land use. *Regional Environmental Change* 18: 789-802.
- Levers C., Müller D., Erb K., Haberl H., Jepsen M.R., Metzger M.J., Meyfroidt P., Plieninger T., Plutzer C., Stürck J., Verburg P.H., Verkerk P.J., Kuemmerle T. (2018) Archetypical patterns and trajectories of land systems in Europe. *Regional Environmental Change* 18: 715-732.
- Brown C., Holzhauser S., Metzger M.J., Paterson J.S., Rounsevell M. (2018) Land managers' behaviours modulate pathways to visions of future land systems. *Regional Environmental Change* 18: 831-845.
- Sing L., Metzger M.J., Paterson J.S., Ray D. (2018) A review of the effects of forest management intensity on ecosystem services for northern European temperate forests with a focus on the UK. *Forestry* 91: 151-164.

- Zorrilla-Miras P., Mahamane M., Metzger M.J., Baumert S., Vollmer F., Luz A.C., Woollen E., Siteo A.A., Patenaude G., Nhantumbo I., Ryan C.M., Paterson J., Matediane M.J., Ribeiro N.S., Grundy I.M. (2018) Environmental conservation and social benefits of charcoal production in Mozambique *Ecological Economics* 144: 100-111.
- Soteriades A., Murray-Rust D., Trabucco A., Metzger M.J. (2017) Understanding global climate change scenarios through bioclimate stratification. *Environmental Research Letters* 12: 8.
- Mahamane M., Zorrilla-Miras P., Verweij P., Siteo A., Ryan C., Patenaude G., Grundy I., Metzger M.J., Ribeiro N., Baumert S., Vollmer F. (2017) Understanding land use, land cover and woodland-based ecosystem services change, Mabalane, Mozambique *Energy and Environment Research* 7: 1.
- Villoslada M., Bunce R.G.H., Sepp K., Jongman R.H.G., Metzger M.J., Kull T., Raet J., Kuusemets V., Kull A., Leito A. (2017) A framework for habitat monitoring and climate change modelling: construction and validation of the Environmental Stratification of Estonia. *Regional Environmental Change* 17: 335-349
- Hernes M.I., Metzger M.J. (2017) Understanding local community's values, worldviews and perceptions in the Galloway and Southern Ayrshire Biosphere Reserve, Scotland. *Journal of Environmental Management* 186: 12-23.
- Araya-Munoz D., Metzger M.J., Stuart N., Wilson A.M.W., Carvajal, D.A (2017) A spatial fuzzy logic approach to urban multi-hazard impact assessment in Concepción, Chile. *Science of the Total Environment* 576: 508–519.
- Schmidt K., Walz A., Jones I., Metzger M.J. (2016) The Sociocultural Value of Upland Regions in the Vicinity of Cities in Comparison With Urban Green Spaces. *Mountain Research and Development* 36: 465-474.
- Araya-Munoz D., Metzger M.J., Stuart N., Wilson A.M.W., Alvarez L. (2016) Assessing urban adaptive capacity to climate change. *Journal of Environmental Management* 183: 314–324.
- Guerra G.A., Metzger M.J., Maes J., Pinto-Correia, T. (2016) Policy impacts on regulating ecosystem services: looking at the implications of 60 years of landscape change on soil erosion prevention in a Mediterranean silvo-pastoral system. *Landscape Ecology* 31: 271-290.
- Holman I.P., Harrison P.A., Metzger M.J. (2016) Cross-sectoral impacts of climate and socio-economic change in Scotland - implications for adaptation policy *Regional Environmental Change* 16: 97-109.
- Guerra G.A., Metzger M.J., Maes J., Pinto-Correia, T. (2016) Policy impacts on regulating ecosystem services: looking at the implications of 60 years of landscape change on soil erosion prevention in a Mediterranean silvo-pastoral system *Landscape Ecology* 31: 271-290
- Guerra G.A., Maes J., Geijzendorffer I.R. Metzger M.J., (2016) An assessment of soil erosion prevention by vegetation in Mediterranean Europe: Current trends of ecosystem service provision. *Ecological Indicators* 60: 213-222.
- Thomas H.J.D., Paterson J.S., Metzger M.J., Sing L. (2015) Towards a research agenda for woodland expansion in Scotland. *Forest Ecology and Management* 349: 149-161.
- Leito A., Bunce R.G.H., Kylvik M., Ojaste I., Raet J., Villoslada M., Leivits M., Kull A., Kuusemets V., Kull T., Metzger M.J., Sepp K. (2015) The potential impacts of changes in ecological networks, land use and climate on the Eurasian crane population in Estonia *Landscape Ecology* 30: 887-904
- Gramberger M., Zellmer K., Kok K., Metzger M.J. (2015) Stakeholder integrated research (STIR): a new approach tested in climate change adaptation research *Climatic Change* 128: 201-214.
- Vogiatzakis, I., Stirpe M.T., Rickebusch S., Metzger M.J., Xu G., Rounsevell M.D.A., Bommarco R., Potts S. (2015) Rapid assessment of historic, current and future habitat quality for biodiversity around UK Natura 2000 sites. *Environmental Conservation* 42: 31-40.
- Zomer R.J., Trabucco A., Wang M., Lang R., Chen H., Metzger M.J., Smajgl A., Beckschäfer P., Xu J. (2014) Environmental stratification to model climate change impacts on biodiversity and rubber production in Xishuangbanna, Yunnan, China. *Biological Conservation* 170: 264-273.
- Guerra C., Pinto Correia M.T., Metzger M.J. (2014). Mapping soil erosion prevention using an ecosystem service modelling framework for integrated land management and policy. *Ecosystems* 17: 264-273.