

FINAL REPORT

SYNTHESIS OF LCLUC STUDIES ON URBANIZATION: STATE OF THE ART, GAPS IN KNOWLEDGE, AND NEW DIRECTIONS FOR REMOTE SENSING

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1. Summary of project research activities

This project has funded the publication of 6 research papers, 3 papers in review, 1 book and 6 papers in preparation. In total, the project will have supported the publication of 15 peer-reviewed research papers and 1 book.

2. Research publications accepted, in review, or in preparation. Project funded researchers in bold

Published

1. Pandey, B., Zhang, Q., **Seto, K.C.** 2017. Comparative evaluation of relative calibration methods for DMSP/OLS nighttime lights, *Remote Sensing of Environment*. doi.org/10.1016/j.rse.2017.04.011.
2. **Güneralp, B.**, Lwasa, S., Masundire, H., Parnell, S., **Seto, K.C.** 2018. Urbanization in Africa: Challenges and opportunities for conservation. *Environmental Research Letters*. 13: 015002, doi.org/10.1088/1748-9326/aa94fe.
3. Huang, C-W., McDonald, R.I., **Seto, K.C.** 2018. The importance of land governance for biodiversity conservation in an era of global urban expansion, *Landscape and Urban Planning*, doi.org/10.1016/j.landurbplan.2018.01.011.
4. **Seto, K.C., Reba, M.** 2018. *City Unseen: New Visions of an Urban Planet*, New Haven: Yale University Press.
5. **Wentz, E.A.**, York, A.M., Alberti, M., Conrow, L., Fischer, H., Inostroza, L., Jantz, C., Pickett, S.T.A., **Seto, K.C.**, Taubenböck, H. 2018. Six fundamental aspects for conceptualizing multidimensional urban form, *Landscape and Urban Planning*, 179: 55-62.
6. **Conrow, L., Wentz, E.A.**, Nelson, T., Pettit, C. 2018. Comparing spatial patterns of crowdsourced and conventional bicycling datasets. *Applied Geography*, doi.org/10.1016/j.apgeog.2018.01.009.
7. **Zhao, Q.**, Sailor, D. J., **Wentz, E. A.** Impact of tree locations and arrangements on outdoor microclimates and human thermal comfort in an urban residential environment. *Urban Forestry & Urban Greening*, doi.org/10.1016/j.ufug.2018.03.022.

Under review/submitted

8. **Reba, M.** and **Seto, K.C.** A systematic review and assessment of algorithms to detect, characterize, and monitor urban land change, *Remote Sensing of Environment*.
9. Wang, C., Li, Y., Myint, S., **Zhao, Q., Wentz, E.A.**, The Impacts of Spatial Arrangements of Urban Land Cover on Land Surface Temperature across Köppen Climate Zones in the Contiguous United States, *Landscape and Urban Planning*.

10. **Zhao, Q.**, Reynolds, R., Li, Y., Wang, C., **Wentz, E.A.** A 3D landscape expansion index for characterizing multidimensional urban change dynamics, *Computers, Environments, and Urban Systems*.

In preparation

11. **Mahtta, R.**, Mahendra, A. and **Seto, K.C.** Up and out: typologies of global urban growth across 500 cities. To be submitted to *Environmental Research Letters*.
12. **Wentz, E.A.**, **Seto, K.C.** Variations across time and place of the spatial patterns of urban land use land cover change. To be submitted to *PlosOne*.
13. **Güneralp, B.**, **Wentz, E. A.**, **Reba, M.**, **Seto, K. C.** Trends in urban land expansion 1970-2010: a global synthesis. To be submitted to *PlosOne*.
14. **Güneralp, B.** and **Wolfe, A.** A synthesis of sustainable urban land use. To be submitted to *Land Use Science*.
15. **Güneralp, B.** and **Chapman, N.** Fifty years of urban expansion in the Middle East. To be submitted to *Regional Environmental Change*.
16. **Seto, K.C.**, **Mahtta, R.**, **Wentz, E.A.**, **Güneralp, B.**, **Reba, M.**, Mahendra, A. What drives urban growth? Evidence from a systematic review of the literature. To be submitted to *Land Use Science*.