

## **Facilitating Spatial Sustainability Transformations: The Case IOER Research Data Centre for Informed Decision-Making in Germany**

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### **Abstract**

Driving transformation through geospatial data integration is one of the key strategies to map and support the sustainability of cities and regions. Since 2023, the IOER's new Research Data Centre (IOER-RDC) has emerged to facilitate the spatial sustainability transformation of urban and regions. The IOER-RDC offers spatial data, analyses, and digital tools that enable interdisciplinary research, support policy and planning practices, and should enable informed decision-making process. The focal topical issues include land use, settlements, buildings, and ecosystems. It provides high-resolution indicators on multi-temporal land use monitoring, ecosystems, dynamic settlement structures, and building material stocks in Germany. The IOER-RDC offers aims to enable diverse stakeholders, including policymakers and planners, to understand the potential impacts of different pathway scenarios, recognize trade-offs, and make informed decisions at the neighborhood, city, and regional levels. The IOER-RDC is accredited by the German Data Forum (RatSWD) and including its geospatial research data infrastructure, the "Monitor of Settlement and Open Space Development (IOER-Monitor)," which has been in operation since 2009. IOER-Monitor usages official geodata sources from federal cartographic agency (BKG), besides other geospatial data and statistical information sources. The IOER-RDC actively participates in German national research data infrastructure (NFDI) initiatives, including NFDI4Biodiversity, NFDI4Earth, KonsortSWD, BERD@NFDI, and NFDI4Memory.