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# Guest editorial: Employing geoinformation for urban planning, Cadastre, Geodesign and building adaptation via spatial data

In recent years, Geoinformation Science has emerged as a crucial discipline, offering tools, methodologies and techniques essential for surveying and mapping. These sectors include infrastructure, environmental management, urban planning, demographics, construction, land governance, tourism and transportation.

Of particular significance are the roles of Cadastre information and Geodesign in local and regional governance. Challenges exist in generating geospatial data at parcel levels and fostering stakeholder discussions facilitated by geospatial system representations.

Traditionally, Cadastre serves as a contemporary land information system focusing on parcels, documenting land interests like rights, restrictions and responsibilities. However, its utilization remains limited in many countries due to the absence of dedicated development teams.

Conversely, Geodesign has gained formal methodological recognition, engaging a growing community of researchers and practitioners. It involves a collaborative framework aiming to design and implement optimal solutions for spatial challenges in built and natural environments, leveraging integrated techniques and data.

This Special Issue explores scientific and technical advancements in geoinformation sciences related to the acquisition, analysis and representation of spatial information across different scales. It includes innovative contributions spanning surveying integration, methodologies, technologies and their applications in various fields such as engineering, environmental sciences, urban planning, Cadastre and other natural sciences, driving geographic intelligence-based decision-making.

Each manuscript in the special issue titled “Applied Geoinformation: acquisition, analysis, and representation of spatial information for urban master planning, cadastre, and building adaptation” offers insights into contemporary Cadastre and Geodesign efforts in Brazil. Additionally, complementary manuscripts examine geoinformation applications in diverse South American contexts, addressing real-world challenges.

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