

Cartographic Visualization in Sports Broadcasting: Spatial Analysis and Geospatial Insights

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Abstract:

The boundaries of modern geography are evolving beyond traditional academic frameworks. Today, geographic science, supported by comprehensive data systems and technological advancements, stands at the epicenter of interdisciplinary research. The era of digital transformation has generated a growing demand for multidimensional data visualization, where cartographic design plays a crucial role in transforming complex datasets into perceptible and dynamic models.

This study explores the intersection of sports and cartography – a synthesis that not only expands the scope of geographic methodologies but also significantly increases engagement among younger generations. Contemporary sports broadcasting is increasingly inconceivable without geospatial analytics, offering audiences a fundamentally new and deeper perspective on game interpretation.

The aim of the research is to conduct a systematic analysis of cartographic visualizations used in sports broadcasts. The paper examines how specific visual models (such as heat maps and player movement trajectories) influence the interpretation of sporting events. Particular attention is given to examples from La Liga, where graphical representations of player coverage areas, attacking vectors, and spatial dominance are actively employed.

The study demonstrates that these methods serve as powerful tools for coaching staff, enabling rapid diagnosis of team performance, playing style, and tactical strengths and weaknesses. The concluding section provides recommendations for innovative cartographic solutions that can elevate sports analytics to a qualitatively new level and further strengthen the connection between geographic science and modern media technologies.