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Article

COVID-19: Challenges to GIS with Big Data

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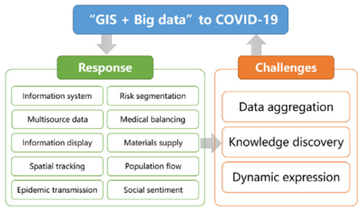
HIGHLIGHTS

- GIS with big data provides geospatial information to fight COVID-19.
- Big data showed power on epidemic transmission analysis and prevention decision making support.
- Challenges still continue in data aggregation, knowledge discovery, and dynamic expression.

GRAPHICAL ABSTRACT



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ABSTRACT

The outbreak of the 2019 novel coronavirus disease (COVID-19) has caused more than 100,000 people infected and thousands of deaths. Currently, the number of infections and deaths is still increasing rapidly. COVID-19 seriously threatens human health, production, life, social functioning and international relations. In the fight against COVID-19, Geographic Information Systems (GIS) and big data technologies have played an important role in many aspects, including the rapid aggregation of multi-source big data, rapid visualization of epidemic information, spatial tracking of confirmed cases, prediction of regional transmission, spatial segmentation of the epidemic risk and prevention level, balancing and management of the supply and demand of material resources, and social-emotional guidance and panic elimination, which provided solid spatial information support for decision-making,