# Spatiotemporal Analysis and Mapping of the Relationship between

**Hand, Foot and Mouth Disease and Climate**

**(Title of Abstract, Calibri, 14 pt, bold, left aligned)**

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# Abstract

# Progress in exploration of the relationship between hand-foot-mouth disease (HFMD) and environmental variables has revealed impacts of the climate on the transmission of HFMD. However, research on how the relationship changes over space and time remains blank. In this paper, we combine geographically and temporally weighted regression (GTWR) with visualization of isosurfaces to analyse the spatiotemporal complexity of HFMD and environmental variables with an aim to understand their relationship and its spatiotemporal change. With recent data for Shandong Province, China, we explore the spatiotemporal heterogeneity of the relationship quantitatively with the assistance of visualization. The results illustrate that in the study area, the two major climate indicators, temperature and rainfall have a significant influence during the months of… than other months and spatially affect areas such as more heavily than other areas. Change trend is described as in fig… We believe the proposed approach will have significant implications for similar health and environmental research.

# (No more than 250 words, Calibri, 11pt)

# Key words:

# spatiotemporal analysis and mapping; self-organization map; isosurface

# (No more than 10 words, Calibri, 11pt)