**Linking Surrounding Greenness with Schizophrenic Disorders**

**using Remote Sensing**

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**Objectives**：Climate change is an emerging issue which causes more frequent extreme weather events such as the extreme precipitation and heat waves driven by global warming. This situation affects not only the ecosystem but also human health. Recent studies indicate that the extreme weather may potentially affect mental health, whereas some preliminary evidence suggests that forest and vegetation may alleviate the adverse effects driven by extreme weather though the findings are not conclusive. Therefore, it is important to utilize a well-designed study to further clarify the relationship between greenness and mental health.

**Methods**：This study was conducted in Taiwan consisting of the tropical and subtropical zones, and we investigated the effects of surrounding greenness on schizophrenic disorders. The incident cases of schizophrenia (2000-2010) were extracted form National Health Insurance Research Database (NHIRD); six metrological factors related to temperature and precipitation were acquired from the Central Weather Bureau; and the long-term Normalized Difference Vegetation Index (NDVI) serving as a surrogate of greenness was obtained from the US. Geological Survey (USGS). Generalized Estimating Equation (GEE) was applied to quantify the health effects from greenness on schizophrenic disorders.

**Results**：We found the monthly mean maximum temperature and number of rainy days were statistically significant factors associated with surrounding greenness, and the relationships were consistently found across Taiwan. Moreover, NDVI was also negatively associated with the occurrence of schizophrenia after adjusting for the known risk factors contributing to the diseases, suggesting the relationship was not biased by confounding effects.

**Conclusions**：We found that surrounding greenness is significantly associated with mental health. This is informative on the public health perspective to reduce the mental health burden in the scenario of climate change.

**Keyword：**Greenness, Remote Sensing, Normalized Difference Vegetation Index (NDVI), Mental Health, Schizophrenia.

**Suggested Topics**：

Remote Sensing Applications- Climate/Environment

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**Preference between oral and poster presentation**

Oral presentation