Monitoring The Multi-Temporal Pattern of A COVID-19 Situation in Thailand Through Geospatial Data

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ABSTRACT

The current spread of COVID-19 is a severe situation that may affect all people regarding human health and social and economic well-being in Thailand. To continuously monitor the case at the national level, this research used the statistics of monthly patients in each province of Thailand from January 2020 to May 2021 to map and analyze the spread of the COVID-19 outbreak. This study used Morans I Index to identify a spatial pattern of the outbreak at the national level and utilized Getis-Ord Gi and Gi through a hot spot analysis to determine the intensity of the outbreak areas. Moreover, the correlation analysis was applied to identify the relationship between a number of patients and social and economic factors. The analysis results show that the spread of COVID-19 is concentrated in the major cities of various regions of the country, especially in Bangkok, which is the area where the epidemic concentration is the highest. In addition, the results from the analysis of the relationship between the number of cases and various factors revealed that COVID-19 cases show a low level of association compared with social and economic factors. It is because most of the epidemic is related to the travel activities of the local population. Finally, the results obtained from this study will lead to a greater understanding of the COVID-19 outbreak. They can also use the information for planning and organizing public health at the national level.*

MapMint: The service-oriented platform

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ABSTRACT

MapMint is a comprehensive task manager for publishing web mapping applications. It is a robust open-source geospatial platform allowing the user to organize, edit, process and publish spatial data to the Internet. MapMint includes a complete administration tool for MapServer and simple user interfaces to create Mapfiles visually. MapMint is based on the extensive use of OGC standards and automates WMS, WFS, WMT-S, and WPS. All the MapMint functions run through WPS requests calling general or geospatial web services vector and raster operations, Mapfiles creation, spatial analysis and queries, and much more. MapMint server-side is build on top of ZOO-Project, MapServer, GDAL, and numerous WPS services written in C, Python, and JavaScript. MapMint client-side is based on OpenLayers and Jquery and provides user-friendly tools to create, publish and view maps. In this presentation, MapMint architecture and main features will be presented, and its modules: Dashboard, Distiller, Manager, and Publisher described with an emphasis on the OGC standards and OSGeo softwares they are using. Some case studies and examples will finally illustrate some of the MapMint functionalities.

Study on extending the supply water pipe network at Binh Thuy district, Can Tho city

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ABSTRACT

The study aimed to determined the need of development and investment for water supply systems, then proposing a reasonable water supply pipe network for Binh Thuy district - Can Tho cities by 2030. Secondary data related to water is collected from local authorities, then EPANET model was applied to calculate flow, pressure in water supply system. The results show that water supply network of Binh Thuy has supplied water to 84.95% of households in the district, the pressure recorded at the end of pipelines is not up to standard. Thereby, the study also foresees the need to use clean water as a basis for the implementation of investment projects on new construction, renovation and upgrading of water supply network in the district. Based on that, the study has propose solutions to prevent water loss, preliminary calculate of the capacity of water supply, forecasting the flow rate and pressure in water pipe network.