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## The 2nd International Symposium on Green Technologies and Applications : Submission (136) has been created.

1 mensaje

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Para: diegomamani@est.unap.edu.pe

19 de octubre de 2025, 22:21

Hello,

The following submission has been created.

Track Name: ISGTA2025

Paper ID: 136

Paper Title: Generation of High-Resolution Agricultural Maps via Spatial Few-Shot Learning: Integration of Micro Data from the National Agricultural Survey and Sparse Georeferenced Data in the Puno Region

**Abstract:**

A novel research initiative integrates few-shot learning techniques with geographic information systems to generate detailed crop maps at 250-by-250-meter resolution within the Puno area, Peru. Using data collected through the 2023 National Agricultural Survey (ENA), which serves as an aggregated dataset for regional-scale analysis, a prototype spatial network was constructed to simultaneously incorporate agricultural information derived from survey results and geographic adjacency relationships. The system comprises four main phases: first, processing 426,505 ENA entries for data preparation, of which 40,738 specifically relate to Puno; second, compiling district characteristics into geographic grid structures containing 1,078,696 coordinates; third, utilizing these datasets alongside a Few-Shot Learning algorithm across over 5,000 simulations; and finally, evaluating performance through spatial analysis indicators, such as an F1-score of 0.0188 corresponding to an area under the curve of 0.6345. The findings support the viability of this method for predicting crop distribution using sparse information, particularly beneficial for potato cultivation due to its dispersed nature in the Puno area.

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Secondary Subject Areas: Not Entered

Submission Files:

Generation of High-Resolution Agricultural.pdf (472 Kb, Mon, 20 Oct 2025 03:20:56 GMT)

Submission Questions Response: Not Entered

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