



## CALL FOR PAPERS

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

Special Issue on

“Next-Generation Geospatial Technologies:

Advanced Deep Learning Approaches for Disaster Risk Reduction using Geospatial Data”

The increasing availability and very high-resolution geospatial data, including UAV imagery, satellite images, airborne and ground LiDAR data, have opened up new insights for disaster management and natural hazard mitigation. Applying advanced deep learning approaches to these data sources can further enhance our ability to predict, respond to, and recover from natural disasters. However, using these techniques in disaster management is still a nascent field, with many challenges and opportunities yet to be explored. This special issue aims to bring together the latest research and developments in this field and spur further progress in this important area.

The primary objective of this Special Issue is to showcase cutting-edge research that leverages deep learning techniques for analyzing various types of geospatial data in disaster management and natural hazard mitigation. We cordially invite submissions that delve into a wide range of disasters and natural hazards, including but not limited to droughts, tsunamis, land subsidence, landslides, deforestation, global warming, floods, wildfires, and earthquakes. Of particular interest are studies that employ diverse deep learning techniques, such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Generative Adversarial Networks (GANs), Transformer models, Graph Neural Networks (GNNs), and Reinforcement Learning (RL) networks etc., to extract valuable insights from geospatial data.

The broad topics include (but are not limited to):

- Development and application of novel deep learning techniques for analyzing geospatial data, encompassing UAV imagery, satellite images, airborne and ground LiDAR data in disaster management.
- Utilization of deep learning techniques for disaster prediction and early warning systems, enabling proactive measures to mitigate potential risks.
- Post-disaster damage assessment and recovery monitoring using deep learning algorithms, facilitating efficient resource allocation and recovery planning.
- Integration of geospatial data with other data sources, such as social media data and ground-based sensor data, enhances disaster management strategies' effectiveness.
- Real-world case studies showcasing the successful implementation of deep learning techniques in disaster management scenarios, providing valuable insights and lessons learned.

### Schedule

April 01, 2024      Submission system opening  
August 31, 2024      Submission system closing

### Format

All submissions will be peer-reviewed according to the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on <http://mc.manuscriptcentral.com/jstars>, using the Manuscript Central interface and select the “**Disaster Management and Natural Hazard Mitigation through Advanced Deep Learning Techniques in Geospatial Data**” special issue manuscript type.

Prospective authors should consult the site: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8855039> for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double-column, single-spaced).

Please visit [http://www.ieee.org/publications\\_standards/publications/authors/author\\_templates.html](http://www.ieee.org/publications_standards/publications/authors/author_templates.html) to download a template for transactions. Please note that as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee of \$1,496 per paper.

### Guest Editors

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