

IAF EARTH OBSERVATION SYMPOSIUM (B1)  
Interactive Presentations - IAF EARTH OBSERVATION SYMPOSIUM (IP)

Author: Mr. JAHIR UDDIN  
University of Nebraska-Lincoln, United States, jahiruddinkomol+iafastro@gmail.com

Mr. Mehedi Hassan  
BRAC University, Bangladesh, mehedi.hassan4@g.bracu.ac.bd  
Mr. Md. Mahbub Ul Haque  
BRAC University, Bangladesh, md.mahbub.ul.haque@g.bracu.ac.bd  
Ms. Rehnuma Binta Shahriar  
BRAC University, Bangladesh, rehnunashahriar2@gmail.com  
Ms. Raihana Shams Islam Antara  
BRAC University, Bangladesh, raihanashams.antara@bracu.ac.bd  
Mr. Abdulla Hil Kafi  
BRAC University, Bangladesh, abdulla.kafi@bracu.ac.bd  
Ms. Shad Nur Mim Bidhu  
BRAC University, Bangladesh, shad.nur.mim.bidhu@g.bracu.ac.bd

DEEPSEA CLUSTER: DETECTION AND CLASSIFICATION OF ANTHROPOGENIC OCEAN  
NOISE USING SATELLITE IMAGES

**Abstract**

Anthropogenic ocean noise resulting from human activities can harm marine life and ecosystems. However, traditional methods of measuring ocean noise are limited in spatial coverage and resolution, involving expensive and time-consuming underwater monitoring. Recent advances in satellite technology and deep learning have opened new possibilities for the detection and classification of ocean noise using satellite images. In this study, we propose a deep learning-based clustering algorithm to detect noise sources and levels of noise. The algorithm uses pattern recognition and similarity measures to group together images with similar features and identify clusters that are likely to contain noise. The proposed algorithm offers a faster and more efficient approach to detecting noise pollution events, which can help to mitigate their impact on marine life and ecosystems. The study results provide valuable insights into the spatial and temporal distribution of anthropogenic ocean noise and can inform policy decisions related to ocean conservation.