RES-NRSC-2022-013

Name of ISRO Centre/Unit

National Remote Sensing Centre, Hyderabad

Title of the research proposal

Crowd sourcing for landslide inventory using IoT.

Name of Co PI from ISRO Centre/Unit

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Area of Research

Area - Earth and Ocean Applications
Sub-area - Geosciences

Summary of the proposed research and expected deliverables

India has a large area (0.42 lakh sq. km) prone to landslide disaster. Landslides occurring during rainy season are reported frequently by newspapers, online reports, citizens through smart phones (including videos). This is a potential source of rich information and has not been retrieved in India unlike done in few other countries.

Scope of the Work:

- The Objective is to use IoT to geotag all news information. Then optimise the location within acceptable landslide location. This landslide location database will be used in conjunction with rainfall data and the threshold rainfall (daily or antecedent) will be estimated using deep learning algorithm. This will help rainfall-based landslide forecast for disaster management studies. Deliverable will be a GIS database which will be continuously updated using new landslide events.

Deliverables:

- A computer program that will be executed everyday to create a landslide database of India.