SUNRAISE: Sustainable Natural Resource Use in Arctic and High Mountainous Areas

Report on:
Workshop on Google Earth Engine (GEE) for Beginners
- 07th August 2019
School of Environmental Sciences (SES),
Jawaharlal Nehru University (JNU), New Delhi India

Partner number: P12
Jawaharlal Nehru University, New Delhi
India

Workshop Report

A talk on "*Google Earth Engine for Beginners*" was organized in School of Environmental Sciences (SES), Jawaharlal Nehru University (JNU) as a party of capacity building under sustainable natural resource use in Arctic and high mountainous Areas (SUNRAISE project) on 07 August 2019.

The lead speaker for the workshop was *Ms Roopam Shukla* is presently a postdoctoral researcher at the Adaptation in Agricultural Systems working group in the Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany.

The purpose of this talk was to introduce cloud based geospatial processing platform i.e. Google Earth Engine (GEE) to the beginners. The participants were MA, MSc, MPhil and PhD students, staff and faculty members from different schools of the JNU, namely, School of Environmental Sciences (SES), JNU-ENVIS (Environmental Information System) Centre, Center for the Study of Regional Development (CSRD), School of Social Sciences (SSS), School of Computer and Systems Sciences (SCSS) and Special Centre for Disaster Research (SCDR).

The two hour session was divided in three sessions, (i) Introduction to GEE, (ii) Practice Session and (iii) Discussions on GEE. In the introduction part, speaker shared the importance of open source platform for analysis and visualisation of a wide range of raster and vector data at global, regional and local scale. Two case studies were discussed, global forest cover change analysis and tiger habitat monitoring, both of which would have otherwise taken larger time period to complete data processing, results and finding the research questions. But with the GEE, the studies were easily completed within a year or so.

This platform provides with multiple datasets ranging from Landsat, MODIS to GlobCover and NOAA. The participants were familiarized to two types of platforms that the GEE provides us: (i) Explorer and (ii) Code Editor. While the Explorer is a point and clicks platform, the Code Editor is a web based IDE used to carry out a complex analysis.

In the practical session, a few sample codes were run to carry out sample exercises. The participants were exposed to fundamental data processing and calculation using huge amount of raster data (both geographically/spatially and temporally). Different data formats, storage, visualisation and archiving techniques were shared during this session. Similarly, some commonly used high function algorithms, development, testing and archiving of codes and online help sessions were introduced to the participants. The speaker also shared practical know-how of about different codes, potential errors associated with them and ways to fix such bugs using online services.

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The last session included discussion and question & answer session. Students from different backgrounds (Geography, Geology, Computer Science, Environmental Sciences etc.) asked queries related to their respective fields and topics. The discussion raised some of the gap areas and also possible solutions to apply geospatial technology for environmental conservation and management.

At the end of the talk, Prof PK Joshi thanked the speaker and listeners for their time and interest.

Ms Roopam Shukla addressing the participants on GEE

SUNRAISE

GOOGLE EARTH ENGINE FOR BEGINNERS

07 August 2019
1500-1700 Hrs
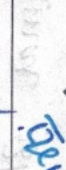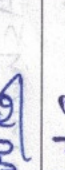
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