Basic Remote Sensing Training

Kathmandu Forestry College

In collaboration with Nepal Remote Sensing and Photogrammetric Society

3-9 March, 2019

Introduction

Remote Sensing has proved to be a useful tool in analyzing the earth systems, phenomenon and characteristics of the objects of the

earth. The technical advances over the past few years and data availability have contributed to development of remote sensing industry in a wide range of new sectors. In present context, remote sensing (RS) is being used in numerous fields including forestry, geography, land surveying, hydrology, ecology, meteorology, oceanography, engineering and many more. Moreover, it has military, intelligence, commercial, economic, planning, and humanitarian applications as well.

Remote sensing is integrated within Geographical Information System (GIS) and Global Navigation Satellite System (GNSS); and helps to capture spatial information with the help of satellite or scanned images along with their exploration. These days, GIS, GNSS and Remote Sensing are considered as reliable and convincing tool to generate the spatial based data from the field, conduct geographic analysis and visualize the information in meaningful and demonstrative way.

As the demand of RS, GNSS and GIS is ever increasing, several institutions around the globe have introduced RS, GNSS and GIS as part of their academics. Recognizing the demand, Kathmandu Forestry College (KAFCOL) has been offering MSc in Geographical Information Science and Systems (UNIGIS MSc) since 2012, in cooperation with the Department of Geoinformatics – Z_GIS, University of Salzburg, Austria (Europe). This programme has been approved by the Ministry of Education, Government of Nepal and accepted as equivalent to Master's Degree by the Tribhuvan University. This international MSc degree course is pioneer of its type offered in Nepal, which has worldwide recognition. Individuals and practitioners with Bachelor degree who are interested to pursue GIS/RS higher degree course (including those who are already active in this field) will find this course very useful.

Alongside offering UNIGIS M.Sc. course, KAFCOL has been organizing different relevant activities/trainings to promote application of GIS and Remote Sensing in Nepal. One of the similar training is going to be organized at Kathmandu Forestry College in collaboration with Nepal Remote Sensing and Photogrammetric Society (NRSPS) on March 2019.

Objectives:

The main objectives of the training are:

1. To introduce the basic concepts of remote sensing, impart knowledge about its different aspects and utilities.
2. To provide basic practical skills of remote sensing for its application in the desired field of interest.
3. To develop a foundation to facilitate enrollment and successfully complete the UNIGIS MSc course by those undergraduate degree holders who have not yet entered the geospatial field but have interest in it.
4. To create awareness the existing of Nepal Remote Sensing and Photogrammetric Society(NRSPS), a professional society for exploring several aspects of Remote Sensing and Photogrammetric domain.

Expected outcomes

On the completion of the training course, the participants are expected to:

- Participants will gain basic knowledge and skills in on remote sensing data management.
- Participants will be able to find obtain RS datasets, download them and prepare them to use in remote sensing analysis.
- Participants will be able to design and conduct remote sensing projects in the area of their interest.
- Participants will know the role of NRSPS playing for the development of the country.

Tentative Session plan

Day	**7:00 -8:15 AM**	**Resource Person**	**8:15 to 9:30 AM**	**Resource Person**
Day 1	• Opening of the Training • Introduction to Kathmandu Forestry College and UNIGIS Program • Introduction of NRSPS • Introduction to remote sensing and its application	Dr. Ambika P. Gautam Mr. Rabin Kaji Sharma PK	Familiarization with image processing system and startup procedure	UKM
Day 2	Browsing satellite data	PK	Data preparation	HLS
Day 3	Image rectification and registration	HLS	Radiometric correction of satellite images	UKM

Day 4	Fundamentals of image indexing	HLS	Visual and Digital Data interpretation	RKT
Day 5	Image enhancement techniques	PK	Filtering techniques	RKT
Day 6	Image classification (Supervised and Unsupervised)	PK	Integration with GIS	UKM
Day 7	Preparation of landuse map from satellite imagery	HLS	Small Project Work Closing of Training and Certificate distribution	HLS

Course Fee: 7000/-

Training Instructors:

1. HLS - Dr. Him Lal Shrestha, KAFCOL/NRSPS
2. UKM - Dr. Umesh Kumar Mandal, NRSPS/TU
3. PK - Mr. Prashid Kandel, Visiting Faculty, KAFCOL
4. RKT - Mr. Raj Kumar Thapa, NRSPS