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**Training course**

**“Remote Sensing : Basic Theory and Image Processing Methods”**

**Bulachauri, 19 - 23 September 2011**

**Objectives**

*After having finished the five days training course the participant should be able to:*

* 1. Understand the basic theory of remote sensing image processing methods
  2. Search for, and select the most suitable remote sensing sensors and data for environmental terrain assessment
  3. Understand and apply the use of digital elevation models for environmental terrain analysis
  4. Use the ILWIS program for :
     + Import and visualization of single and multi-band remote sensing images
     + Basic image enhancement techniques
     + Geo-referencing of a topographical map and image-to-image registration
     + Supervised and un-supervised image classification
     + Creation of a 3-D anaglyph view from Aster VNIR and ortho-photos in combination with Aster GDEM data

1. Know the capabilities of the ERDAS Imagine image processing software program

**Materials in the folder:**

* *Power Point presentations*
  + Introduction to the Training Course
  + Introduction to the ILWIS Program
  + Terrain analysis and classification using RS data
  + Introduction to Remote Sensing
  + Electro-Magnetic energy and Remote Sensing
  + Geometric operations
  + Digital image classification
  + Digital Elevation Models
  + Browsing www for RS data; download of Landsat data
* *Reference book*
* Principles of Remote Sensing – ITC Educational Textbook Series
* *Exercise instructions*
  + Introduction to the ILWIS RiskCity Exercise
  + ILWIS User’s Guide Chapter 6.1 – 6.4 (selection)
  + Damen - Creation of a Stereo Pair from a DEM in ILWIS
  + Extra:
    - Introduction to ERDAS Imagine
    - Various RS exercises for ERDAS Imagine
* *Softwares*
  + ILWIS 3.3.1 (Academic version)
  + ERDAS Imagine – Demo mode (30 days)
* *Exercise data*
  + SPOT image the Netherlands for the ILWIS User’s Guide exercises
  + Landsat ETM image bands 1-5 + 7+ 8 of East Georgia
  + Selected orthophotos of Georgia
  + Selected Aster VNIR images of Georgia
* *Data DVD*

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**Data DVD**

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