



North African and Near East (NENA) DSM Training Amman Jordan, Jerusalem Hotel 29 Nov – 7 Dec 2015

Introduction

The Digital Soil Mapping (DSM) training was organized as a follow-up of the recommendations of the Amman Communique 2012 which had identified the need to train new generation of experts in soil science and land management in the North Africa and Near East (NENA) region. The training was supported by the FAO-GSP, NENA Soil Partnership Secretariat, FAO-Office in Amman in Jordan, and FAO Regional Office in Egypt. It was hosted by the Ministry of Agriculture of the Jordanian Government. The aim of the training was to introduce the participants to recent DSM concepts and techniques that will enable them develop and update soil information in their countries and eventually in the NENA region. In addition, the training also elaborated on practical examples on the data input and preparation for DSM from different countries in the NENA region and practical applications of DSM outcomes in land suitability mapping for supporting sustainable soil management (SSM). All together, there were 25 participants from 12 countries in the NENA region who participated in the training. These participants are scientists currently practicing in soil information management, generation, or usage.

Group





Implementation

The training was organized in the following five phases:

- (i) Phase 1: Data preparation and management with examples in North-west Jordan and in the NENA region
- (ii) Phase 2: Theoretical background on concepts, theories, and mapping requirements in DSM
- (iii) Phase 3: Hands-on practical implementation using the DSM tools and methods
- (iv) Phase 4: Field tour visit
- (v) Phase 5: Practical application of DSM products in land suitability mapping for sustainable soil management

These phases were seamlessly integrated to help the participants attain a short and beneficial learning curve and meet the training objective. The participants were given training resources in form of lecture notes (cookbook), powerpoint presentations, links to online data sources, software, and online videos for the DSM procedural steps. In order to evaluate the participants and monitor their progress in understanding the DSM training, individual assignments and exercises (using own-data) were used.



Outcomes

After the training, the participants showed case-studies of DSM implementation in their countries. The show-case reflected some of understanding especially in the core areas such as: input data preparation



(which requires mastery of GIS functionalities and understanding of the SCORPAN factors in DSM), image and raster data processing using a hybrid of the conventional approaches to remote sensing analysis and pixel-by-pixel multivariate statistics, and spatial prediction for soil map productions. Practical application of DSM outputs was also illustrated in the land suitability mapping for sustainable soil management. The DSM outputs provided input data for suitability mapping for a case-study in the north of Jordan rift valley.

Water harvesting suitability analysis in Badia of Jordan: This training manual describes the use of improved methodologies to identify potential rainwater harvesting sites by implementing land suitability analysis. It also provides general guidelines for determining site potential in relation to various parameters. The approach integrates multi-disciplinary knowledge, use of GIS, and field verification to develop and test a methodology to identify potential sites and types of rainwater harvesting interventions. Although the data used to undertake the exercises were derived from a selected watershed within the Jordanian Badia, the approach could be applied to similar areas where rainwater harvesting is an option for sustainable land and water management.

