



Food and Agriculture
Organization of the
United Nations



Training on Digital Soil Organic Carbon Mapping

Tentative Agenda
20-24 January 2018
Tehran/Iran

DAY 1

DATE: 20/01/2018

TIME: 08:30 – 17: 30

LOCATION:

Theme	Welcome, Introduction, Digital Soil Mapping
Instructors:	Yusuf Yigini (FAO/GSP)
Please read:	GSP Guidelines for sharing national data/information to compile a Global Soil Organic Carbon (GSOC) map
Please bring:	Portable PC, updated software (R, RStudio, QGIS), and own data

Time	Title
08:30 - 09:00	REGISTRATION
09: 00 - 09:15	OPENING AND WELCOME
09:15 – 10:00	-Introduction to the GSP Pillar 4 and the Global Soil Information System
10:00 - 10:15	Introduction to the Workshop: Background, Scope and the Extent
10:15 - 10:45	Soil Organic Carbon, GSOCMap
10:45 - 11:15	COFFEE BREAK
11:15 - 13:00	Setting-up Hardware/Software Environment
13:00 - 14:00	LUNCH
14:00 - 14:30	Introduction to Digital Soil Mapping (DSM) and review of software
14:30- 15:00	Working with R, R Studio: Basics
15:00 - 15:30	COFFEE BREAK
15:30- 17:30	Working with R, R Studio: Basics

DAY 2

DATE: 21/01/2018

TIME: 08:30 – 17: 30

LOCATION:

Theme

QGIS Basics, R- ESSENTIALS

Instructors:

Yusuf Yigini (FAO/GSP)

Please read:

GSOC cookbook

Please bring:

Portable PC, National SOC Datasets, Covariates

Time	Title
08:30 - 10:30	QGIS Basics: GIS Operations and data manipulation HANDS ON: R Basics
10:30 - 11:00	COFFEE BREAK
11:00 - 13:00	R Basics: Objects, Commands, Expressions, packages, Assignments HANDS ON: R Basics R- Data Types: Vectors, Data Frames, Lists HANDS ON: R data Types, Exercises
13:00-1400	LUNCH
14:00 - 15:00	Getting Spatial in R: Vectors, Rasters, Coordinate Systems, Import, Export
15:00 - 16:00	Cont. Getting Spatial in R: Vectors, Rasters, Coordinate Systems, Import, Export HANDS ON: Getting Spatial in R
16:00-16:30	COFFEE BREAK
16:30- 17:30	Data Preparation

Additional Information:

In this introduction to R, participants will learn the basics of this open source language, including factors, lists and data frames. With the knowledge gained in this course, you will be ready to undertake their own non-spatial data analysis

DAY 3

DATE: 22/01/2018

TIME: 08:30 – 17: 30

LOCATION:

Theme	Getting Spatial With R
Instructors:	Yusuf Yigini (FAO/GSP)
Please read:	GSOC cookbook
Please bring:	Portable PC, National SOC Datasets, Covariates

Time	Title
08:30 - 10:30	Data Preparation: Preparing and pre-processing of point and covariate data
10:30 - 11:00	COFFEE BREAK
11:00 - 13:00	HANDS ON: Preparing and pre-processing of point data and covariates.
13:00 - 14:00	LUNCH
14:00 - 15:00	GSOC Map Depth Classes, Spline Function
15:00 - 15:30	COFFEE BREAK
15:30- 17:30	HANDS ON: Depth, Spline Function

DAY 4

DATE: 23/01/2018

TIME: 08:30 – 17: 00

LOCATION:

Theme: Linear Models, Regression-Kriging, Random Forest

Instructors: Yusuf Yigini (FAO/GSP)

Please read:

Please bring: Portable PC, National SOC Datasets, Covariates

Time	Title
08:30 - 10:30	Linear Models HANDS ON: Linear Models
10:30 - 11:00	COFFEE BREAK
11:00 - 13:00	Regression-Kriging (Sample Dataset)
13:00 - 14:00	LUNCH
14:00 - 15:00	HANDS ON: Regression-Kriging (National Data)
15:00 - 15:30	COFFEE BREAK
15:30- 17:30	Random Forest (Sample Dataset) HANDS ON: Random Forest (National Data)

DAY 5

DATE: 24/01/2018

TIME: 08:30 – 17: 00

LOCATION:

Theme

Conventional Upscaling, Uncertainties, Validation

Instructors:

Yusuf Yigini (FAO/GSP)

Please read:

Please bring:

Portable PC, National SOC Datasets, Covariates

Time	Title
08:30 - 10:30	Conventional Upscaling Methods: Geomatching
10:30 - 11:00	COFFEE BREAK
11:00 - 13:00	HANDS ON: Conventional Upscaling Methods: Geomatching
13:00 - 14:00	LUNCH
14:00 - 15:00	Uncertainty and Validation
15:00 - 15:30	COFFEE BREAK
15:30- 16:30	HANDS ON: Uncertainty and Validation
16:30 - 17:30	Assessment of the training Certificate Ceremony , Closure of the workshop