

Course Completion Report Spatial Data Analyses 2

Course 4.14

NORPLAN 

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1 CONTENT

- Course data
- Course objectives
- Training focus group
- Practical and theoretical work
- Course evaluation: comments from participants
- Recommendations

2 COURSE DATA:

Name of course:	Spatial Data Analyses 2 (Spatial Analyst Tool)
Number of participants:	15 trainees from: RuWatSIP/MRRD, ESD/MRRD, MAIL, MEW and MOM (AGS), DACAAR, NCA
Location for training:	RuWatSIP Conference Room, MRRD
Date of implementation	21 to 23 July 2014
Course organiser	Mr. Iqbal
Supporting presenter/Focal point	Prof. Zarinkhail

3 COURSE OBJECTIVES

A key benefit of geographic information systems (GIS) is the ability to apply spatial operators to GIS data to derive new information. These tools form the foundation for all spatial modelling and geoprocessing. Of the three main types of GIS data: raster, vector, and tin—the raster data structure provides the richest modelling environment and operators for spatial analyses. Spatial Analyst extension adds a comprehensive, wide range of cell-based GIS operators to ArcGIS. During three days of this training course the main focus was on below four objects plus commands of the hydrology tools available in Spatial Analyst extension.

Derive new information: Apply Spatial Analyst tools to create useful information—watershed delineation, surface estimation, and classification. For example, derive distance from roads or calculate population density.

Identify spatial relationships: Explore relationships between layers through weighted overlay and combinations. Spatial Analyst contains a rich set of Map Algebra tools for cell-based modelling.

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Find suitable locations. By combining layers, find areas that are the most suitable for particular objectives (e.g. Sitting a new building, or analyzing high risk areas for flooding or landslides).

Calculate travel cost: Create travel cost surfaces to identify optimum corridors. Factor in economic, environmental, and other objectives.

Work with all cell-based GIS data: Regardless of the raster format, Spatial Analyst allows you to combine them in your analysis. These operations and much more are possible. As a GIS modeller, this is the central toolset you'll use for analysis and modelling.

Hydrology tools:

In this tools we covered following commands

- Fill
- Flow Direction
- Flow Length
- Sink
- Basin
- Watershed

4 TRAINING FOCUS GROUP

This training was designed based on recommendations from the trainings evaluation and participants feedback from a similar course conducted last year for 1 day. The focus group for this training had to be GIS related people with relevant hydrogeology knowledge and those who had completed the first course under this topic.

Cartography 2 course participants were from RuWatSIP, ESD/MRRD, MAIL, MEW, MOM (AGS), DACAAR and NCA. Out from the invited people, the focus group for this training consisted from GIS technical people, hydrogeologists, survey engineers and sanitation from above-mentioned organizations and are: 2 people from GIS-MIS Unit of RuWatSIP/MRRD, 4 from RuWatSIP/MRRD, 2 from ESD/MRD, 1 from MAIL, 2 from MEW, 2 from MoM/AGS, 1 from DACAAR and 1 from NCA.

5 PRACTICAL AND THEORETICAL WORK

This workshop is designed to help perform spatial analysis by giving conceptual information and teaching how to perform tasks to solve spatial problems. Initial topics we covered in first day first hour familiar with the fundamentals of GIS and have a basic knowledge of ArcGIS. Because in

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workshop we found that some participants did not have good knowledge using of ArcMap application.

Other covered topic detail already shortly we mention in course objectives. We distribute our training 3 hours and 30 minutes regularly without any tea or lunch break after every topic we give to participants 10 to 15 minutes discussion time like question & answer. Our workshop scenario is 85% practical work according to course outlines and remaining 15% theoretical work like group discussion. Question & Answer also in theoretical section we give to every participants course material in the shape of power point presentation according to course outline.

6 COURSE EVALUATION: COMMENTS FROM PARTICIPANTS

The course is evaluated by 3 standard questions and 12 people out of 15 participated in this process by filling 12 sheets. Feedback was collected and organized in a spreadsheet. The course evaluation document is available on the project website with full comments.

In summary the questions for evaluation and the participants' response in percentage is as follows:

Question 1: Did the training course meet your expectations? 1=Completely, 2=Partially, 3= Not at all,

Response: Completely: 33%, Partially: 50%, Not at all: 17%.

Question 2: What do you think about the overall relevance of training course? Considering the limits on your time and the topics discussed? 1= Too Long, 2= Just right, 3 = Too short

Response: Too Long: 17%, Just right: 41.5%, Too short: 41.5%.

Question 3: How the relevant was the training workshop to your organization or project's need? 1= Very relevant, 2 = Somewhat relevant, 3 = Not relevant

Response: Very relevant: 58%, Somewhat relevant: 42%, Not relevant: 0%.

7 RECOMENDATIONS IF THE COURSE WAS TO BE REPEATED

1. During course time which was 3 days we had not succeeded to cover complete functionality of Spatial Analyst tool. Another session of 5 days with the same participants may work better delivering technical knowledge to GIS users in MRRD and stakeholder organizations.

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2. After fully completion of Spatial Analyst extension we may need to further analysis of result in 3D Analyst Extension. The 3D Analyst Extension can be covered in 3 days with participants who already attended Spatial Analyst courses.

Report prepared by: Mr. Iqbal, GIS/RS Trainer and Prof. Zarinkhail, GIS-MIS Adviser, Norplan, July 2014