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GIS4DAR ArcGIS Training Workshop - September 7-8, 2017

Sorry, it has been a while since my last posting. I have been thinking of re-arranging the site to also include ArcGIS guides/tutorials as well as other software applications that I'm learning and experimenting with. For example, I'm currently learning about Docker and how to use it as a way to easily build web apps in a container environment. Also I've been learning Sphinx for documentation writing. I'll write something up once I'm done with experimenting.

So with that said, this post is a summary of an ArcGIS training workshop that I did earlier in September of this year that I'd like to share. Special thanks go out to Paulo Maurin, Gretchen Chiques, Annette DeRoches, and Risa Orem at the NOAA Inouye Regional Center, Ford Island for organizing the GIS4DAR workshop and inviting me to do the training.

The purpose of this training workshop was to teach the Hawaii Department of Land and Natural Resources, Division of Aquatic Resources (DAR) staff how to apply GIS to their research.

Below is a synopsis taken from the GIS manual and a preview of the Table of Contents so you can see what the training was all about. You can also download the [GIS4DAR Training Manual](#) - Please be patient. The pdf file is about 100 pages and is ~6 MB. The data for the training is really large (~1 GB) so I'm still trying to figure what is the best way to post it for downloading. But in the meantime if you would like it - please email me directly.

About the Training/Tutorial

A GIS (Geographic Information System) is a computer-based system for the input, storage, analyses, and display of spatial data. This training workshop provides an introductory to intermediate training in GIS using ArcGIS Desktop 10.4.1. No GIS experience is required. The purpose of this training is to get you up and going using and applying GIS to your research without spending a lot of time learning it. The training is hands-on and

project-based, meaning you will learn how to apply GIS to a project from start to finish. More specific to the software, ArcGIS 10.4.1 that will be taught, you will learn how to:

- Use the ArcCatalog application to store, organize and manage spatial data such as creating geodatabase and metadata.
- Use the ArcMap application to view spatial data and make maps/visuals; and learn the basics of cartographic design.
- Use the ArcToolbox application to process/analyze spatial data, such as deriving slope from a bathymetry model (or DEM) and doing data conversion.
- Use the Model Builder application to create models and create a project work-flow process.
- Use the Spatial Analyst Toolbar to do raster analyses, such as calculating the shortest or least cost path from one location to another.

The training is broken up into 2 sections, an ArcCatalog section with 3 exercises and an ArcMap section with 10 exercises. The ArcGIS Desktop 10.4.1 with a Standard or Advanced license plus separate Spatial Analyst and an optional 3D Analyst Extensions are required.

Case Example: Interisland Ocean Cable Project

The case example being used in this tutorial is based on a project done in 2009 conducted by UH Manoa, School of Ocean and Earth Science and Technology (SOEST). More information for the survey project can be at: http://www.hawaiiicleanenergyinitiative.org/storage/interisland_cable.pdf (last accessed 8/24/2017).

Note that the methods used in this tutorial are only for the purpose of teaching GIS/ArcGIS, and are not necessarily reflective of the actual methods used in the real project.

Case scenario: As part of a renewable energy initiative, the Hawaiian Electric Company (HECO), with assistance from the State of Hawaii (DBEDT) is planning to integrate wind energy into the Oahu electrical system. The wind energy is expected to come from one or more wind farms on Lanai and/or Molokai and transmitted to Oahu via an interisland, undersea cable system. The proposed plan is to have either 1) two, 200 MW wind farms: one on Lanai and another on Molokai to integrate with Oahu's electric grid, or 2) a single 400 MW facility either on Lanai or Molokai to integrate with Oahu's electrical grid system. A later phased cable extension to Maui is also being looked at.

Your Task: To determine if it's feasible to have such an undersea power transmission system and if so suggest possible cable transmission routes.

Preview of the Table of Contents

Note: Appendix B is not included in the tutorial for download here as it only pertains to Hawaii State Employees

TABLE OF CONTENTS

INTRODUCTION	3
About the Training/Tutorial.....	3
Case Example: Interisland Ocean Cable Project	3
ARCGIS SOFTWARE.....	5
GIS TERMINOLOGY	6
USING ARCCATALOG	8
Exercise 1: Using ArcCatalog to Explore Geospatial Data	8
1.1 Connecting to folder(s).....	8
1.2 Viewing data with the Contents, Preview, and Description tabs	9
1.3 Adding a metadata enclosure	13
1.4 Viewing the properties of a data layer.....	14
Exercise 2: Organizing Frequently Used Coordinate Systems	15
Exercise 3: Working with a Geodatabase	17
3.1 Creating a working folder.....	17
3.2 Creating an empty geodatabase	17
3.3 Importing data into geodatabase.....	17
3.4 Creating a feature dataset and importing data into it	18
3.5 Creating a raster catalog and loading it.....	19
3.6 Import and project bathymetry grids into geodatabase	22
USING ARCMAP	24
Exercise 1: Getting to Know the ArcMap User Interface	24
1.1 The ArcMap user interface	24
1.2 Setting the map document properties.....	25
1.3 Adding data to the table of content	26
1.4 Interacting with the map layers.....	27
Exercise 2: Working with Tabular Data (Excel spreadsheet)	32
2.1 Adding and plotting out tabular data	32
2.2 Creating a feature class from tabular data.....	34
Exercise 3: Creating and Exporting a Bathymetry Map	35
3.1 Visualizing bathymetry	35
3.2 Symbolizing features	37
3.3 Creating a map layout and setting the layout properties	39
3.4 Inserting a map inset	44
3.5 Inserting a map extent indicator	45
3.6 Inserting a scale bar	47
3.7 Inserting a north arrow	48
3.8 Inserting a legend	49
3.9 Creating a graticule grid	51

3.10	Inserting a map title and logo	52
3.11	Exporting a map	53
Exercise 4: Suitable Cable Routes – Raster Calculator Method.....		55
4.1	Creating the source and destination layers	55
4.2	Creating a custom toolbox in ArcToolbox	56
4.3	Creating a new model and setting its properties	57
4.4	Convert marine features classes to raster grids	59
4.5	Deriving slope and reclassing slope categories	63
4.6	Reclassing depth categories	65
4.7	Reclassifying marine raster grids	68
4.8	Deriving a total cost layer using raster calculator	70
4.9	Cost distance and direction analysis.....	71
4.10	Least cost path analysis (Finding the shortest cable routes).....	73
Exercise 5: Suitable Cable Route - Weighted Overlay Method		76
Exercise 6: Creating Profile Graph		80
Exercise 7: Adding Model Parameters - Optional		82
Exercise 8: Hyperlinking, Adding Attachments and Geotagging Photos		84
8.1	Convert survey locations to point layer	84
8.2	Hyperlinking images to survey point layer	85
8.3	Adding images as attachments to survey point layer	87
8.4	Viewing attachment(s) of a feature	88
8.5	Creating point features from geotagged photos.....	90
Exercise 9: Connecting to and Using Public GIS Server.....		92
Exercise 10: Adding ESRI Online Basemaps.....		96
APPENDIX A – HAWAII COORDINATE SYSTEMS		97
APPENDIX B – ACCESSING HAWAII STATE GIS DATABASES AND WEB SERVICES.....		98

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Hermawan 8 years ago · 0 Likes

Thanks very much, The content is very useful for me. Good job, keep working.

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