Basics of Spatial Data Collection, Management & Visualization

6th to 7th August, 2016
at the FERAL Office
Surabhi, Ground Floor, No. 769
7th Main, 3rd Cross
J. P. Nagar 2nd Phase, Bengaluru 560 069.

Conducted and hosted by the Foundation for Ecological Research, Advocacy and Learning (FERAL).
Web: http://www.feralindia.org
Course site:
http://www.feral.edu.in/course/view.php?id=2

Introduction

In today's world we are highly dependent on smart-phones to find location based services. In our daily life we use this technology to find nearby services or facilities, it may be a place to eat or finding the nearest pertol pump, we use our phones and computers to search them online. Most often, the results for these searches are not just a list of places, but are also displayed as maps, which help us to navigate to these places. All this is possible due to the growing wealth of *Spatial Data*. But what remains unknow or hidden is the back bone of collecting and managing spatial data, which falls within the domian of Geographical Information Systems (GIS).

In recent times, the use of GIS and GPS (Global Positioning Systems) have become essential tools for a range of applications including reporting of election results, analysising public respone to opinion polls, and also to help in natural disaster management and mapping the spread of epidemic diseases. However, fundamental concepts of GIS are not available to public, outside a formal academic institution.

The focus of this two-day workshop is to fill in this gap, through intensive and hands-on training. The aim of this workshop is that, at the end of the two days, participants would have learnt how to collect spatial data using a GPS/smartphone, will know the basics of managing this data, how to visualize their data, ask some interesting questions, and more importantly present these results as high quality maps, including interactive online maps.

The Workshop

This workshop, includes tutorials and exercises and is structured for persons new to GIS and GPS. The team conducting the workshop has over a decade of experience in using and teaching the subject. Materials and tutorials being used for this course and other courses conducted by FERAL are available for free on FERAL's course management site.

The workshop is structured to give a balance between essential geographical theory (a quick re-hash for most participants), understanding spatial data collection and management, these being important for utilizing a GIS effectively, and learning to use a GIS software. You will be taught to use a GIS software to make quality maps, and undertake some spatial analyses. For this we will be using Google Earth Engine, and Quantum GIS (QGIS), which is among the most popular, free, and open source GIS software.

Some key topics that we will be covering in this workshop are:

1. A quick re-hash of geographical concepts and jargon essential for using a GIS.

2. Spatial data collection using GPS units and GPS enabled smartphones.

3. Management of data.

4. Data visualization and analysis using Google Earth Engine.

5. Import, view, edit, and manage spatially explicit data in a number of vector formats in QGIS.

6. Digitise maps.

7. Analyse and manipulate vector data using geo-processing routines, database features, research and analysis tools.

8. Convert between different data formats and upload data to web based applications such as OpenStreetMap or GoogleMaps.

What is expected from you

1. Bring a relatively powerful laptop with at least 100GB of free disk space and preferably 4 GB or more of RAM. Please note: net-books are not suitable for GIS/RS applications.

2. Bring your GPS and cable - if you have one.

3. Install the latest stable version of Quantum GIS.

4. If you have an Android or iOS based phone or tablet with a GPS, please bring it along.

5. Bring a digital mouse and mouse-pad, touch-pads are not suitable for GIS work.

6. We expect participants to be familiar with basic computer usage.

Instructors

Srinivas Vaidyanathan and Rajat Nayak

For Registration

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TENTATIVE SCHEDULE

Day 1 (6th Aug 2016, 09:30 - 17:30):

Session 1- Introduction Spatially explicit data collection using GPS/smartphones

Session 2- Data Visualisation: use of Google Earth and Earth Engine

Session 3- QGIS: Introduction and installation

Session 4- Basics of mapping and spatial data

Day 2 (7th Aug 2016, 09:30 - 17:30):

Session 1- Handling spatially explicit data: data management and cleanup

Session 2- Data management and vector operations

Session 3- Using spatially explicit data in decision making

Session 4- Presenting spatially explicit information: Making maps for print and online publications.

Course fee: ₹5,000/-.

Discount for students: Full-time students in recognised institutions can avail a 10% student discount. You must email us a copy of a valid ID-card issued by your institute, when signing up. Part-time or correspondence students are not entitled to this discount.

Payments/Cancellations: Full payment for the course should be made one week before the course starts (i.e. on or before 31st July 2016). A full re-fund (minus any applicable bank transaction charges) will be made for cancellations communicated before three days from the commencement of the course (i.e. before the 3rd August 2016). For cancellations made after this date, a deduction equal to 50% of the course fee will be applicable.

NOTE: There will be no refund made for persons dropping out of the course after it starts.
The maximum number of participants for this course will be 12 persons.
All participants need to make their own travel arrangements and arrangements for boarding and lodging.

Location Map

Surabhi, Ground Floor, No. 769, 7th Main, 3rd Cross, J. P. NAGAR 2nd Phase, Bengaluru 560 069

Landmark: Our office is only a 3-minute walk from the well known Ragigudda Temple. Link to the Google Maps