

AGENDA

Regional Training Workshop on the use of Geographical Information Systems for the conduct of agricultural and population censuses and surveys.

Module 1 – Introduction

- i. Introduction to GIS and QGIS.
 - Introduce participants to QGIS project.
 - Explain why QGIS software has been selected to conduct the training.
- ii. Overview of how GIS is used in Survey Cycle.
 - Present examples of surveys conducted during the last 20 years in the region, from hand drawn maps to GPS+PAPI and CAPI.
- iii. Installation, setting up, and intro to GIS software.
 - Participants will be provided with USB keys with the software and training material (manual, presentations and files for the different exercises).
 - Download and install all the plugins that will be used during the training.

Hands on:

Load shapefile, set style, labels. Review menu properties.

Data/Project management basic approach.

Projections, how to deal with projections in QGIS. Set projection in the project, OTF CRS transformation, modify shapefile's projection.

Load Satellite images background.

First EA map layout. (Basic)

Module 2.1 – GPS points and Delineation of Enumeration Areas.

- i. Work with Household / Plots.
 - Explain different sources and methods to collect GPS locations in the field.
 - Accuracy assessment and most common projections.
- ii. Enumeration Areas (EA). Best management practices for demarcation, split and code assignment.

Hands on:

Import point layer from different sources (CSV, GPX)

Edit point layers (from map – location & from table – add/modify attributes).

Edit and delineate EA polygon. Snapping options, topology, add attributes.

Module 2.2 - GPS points and Delineation of EA areas – Advanced – Hands on

- i. Advanced vector analysis focused on Statistics and Agriculture surveys.

Pacific Community (SPC) Headquarters: Noumea, New Caledonia. Regional Offices: Suva, Fiji; Pohnpei, Federated States of Micronesia; Port Vila, Vanuatu. Country Office: Honiara, Solomon Islands.

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Siège de la Communauté du Pacifique (CPS) : Nouméa (Nouvelle-Calédonie). Antennes régionales : Suva (Fidji) ; Pohnpei (États fédérés de Micronésie) ; Port-Vila (Vanuatu). Bureau de pays : Honiara (Îles Salomon).

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Hands on:

Expand on topology, importance and cleaning methods.

Work with attribute tables (Selection, Filter, Create/Delete Fields)

Field calculator. Basic expressions. Create/update fields

Spatial and Table join.

Point / Polygon interaction (Selection by attribute or by location). Intersection, count points in polygon.

Split / Merge EA. Best management practices

Module 3 – Sampling from EA area frames

- i. Introduction to land use classifications. Techniques. Available global datasets that can be used in the region. MODIS, FAO Global, USGCS).
- ii. Demonstration of land classification techniques
- iii. Delineating EA areas on existing land cover maps

Module 4 – Field data collection

- i. Use recreational GPS to collect spatial information from the field.
- ii. Use CAPI to collect information and coordinates from the field.
 - Introduction to CAPI. Survey Solutions and other products available (ESRI, Fulcrum).
 - Introduction to a Basic CAPI questionnaire.
 - Tablet / GPS accuracy. Best management practices.
- iii. CAPI data processing.
 - Download and upload field data into GIS software.
 - Data correction, preparation, cleaning.

Hands on:

Participants will work in groups and will conduct a field survey collecting GPS coordinates, area measurement, photos and other information using both CAPI and GPS+Paper methodologies.

Download data from server (Stata format), upload into QGIS project and discuss the results, accuracy.

Listing data correction. Error detection and cleaning methods.

Module 5 – Dissemination

- i. Layers styles management.
 - Styles.
 - Advanced labelling.
 - Pre-sets.
- ii. Layouts and atlas generation.
 - Landscape / Portrait assignment using expressions.
 - Rule based style and labels.
 - Miscellaneous elements (scale bar, legend, automatic titles).
 - Tables with contents controlled by atlas.

Hands on:

Prepare a set 50 of field maps to conduct a survey.

Draft a data dissemination report using data and shapefiles extracted from PopGIS2.

Module 6 – Advanced vector and raster analysis.

- i. Processing toolbox and vector geoprocessing.

- Access, find tools, manage tools providers.
- Extended plugins.
- Geoprocessing.

Hands on:

Buffers, dissolve, clip and other basic examples.

Closest distance to a point, spatial statistics.

- Types of rasters and utilities.
- Display rasters in QGIS.
- DEMs, elevation data. Global elevation datasets.

Hands on:

Clip raster using polygons.

Work with points and elevation data.

Georeference satellite or topographic maps images.

2018 QGIS for Statistics data collection and dissemination AGENDA

| Time | | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|---------------|-----------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------|
| 8.00 – 8.30 | | Registration | Homework results and questions | Homework results and questions | Homework results and questions | Homework results and questions |
| 8.30 - 10.00 | Morning 1 st session | Workshop Opening and group photo | MODULE 2.2 | MODULE 3 | MODULE 4 | MODULE 5 |
| | | Per diem disbursement at SPC finance office | | | | |
| 10.00 - 10.30 | Coffee Break | | | | | |
| 10.30 - 12.00 | Morning 2 nd session | MODULE 1 | MODULE 2.2 | MODULE 3 | MODULE 4 | MODULE 5 |
| 12.00 - 13.00 | Lunch Break | | | | | |
| 13.00 - 14.30 | Afternoon 1 st session | MODULE 2.1 | MODULE 3 | MODULE 4 | MODULE 5 | MODULE 6 |
| 14.30 - 15.00 | Coffee Break | | | | | |
| 15.00 - 16.30 | Afternoon 2 nd session | MODULE 2.1 | MODULE 3 | MODULE 4 | MODULE 5 | MODULE 6 |
| | | Questions and homework presentation | Questions and homework presentation | Questions and homework presentation | Questions and homework presentation | Workshop closing |