***DRAFT AGENDA for Advanced GeoNode Training for Spatial Data Managers (AGTDM)***

***UWI Trinidad & Tobago – Feb. 18 through 23, 2013***

## Training Syllabus for GeoNode data managers attendants

**Morning sessions: 9:30 am - 12:30 pm.** 10 min Break at 11:00 am

**Afternoon sessions:** **1:30 pm - 5:00 pm**. 10 min Break at 3:30 pm

**AGTDM Training - 6 days**

***Level: ADVANCED***

## Audience

* Advanced GIS users and data managers

### Day 1 - Monday 18th February

### Opening Remarks (15 min);

### Self Introduction by participants;

### ATGDM and ATGSD - What’s in place; What is expected at the end of the course.

**Morning Session - Software Developers and GIS Managers**;

* Developer's and Manager's teams will interact with the goal of finding a common working project for the training;
  + - ATGDM and ATGSD teams will interact to define the following issues and come up with a common assignment to pursue during the training
      * + GeoNode, Issues and constrains,
        + Needs of GeoNode tailor made applications,
        + Integration of mobile applications into GeoNode,
        + Possible enhancements or improvements that will help self promote the implementation, maintenance and daily use of GeoNode at the local and regional level
* Presentation of available GIS Datasets;

**Afternoon Session Lab activities**

* GeoNode configuration;
  + - Preparation of environment (virtualization)
    - Simple GeoNode installation process on Ubuntu
    - IP configuration
    - Appearance customization
    - Sample GeoNode deployments-customizations: Harvard WorldMap, MapStory, Sling
    - Deploying machine image
* GeoNode basic use; The participants will start creating their own GeoNode platform using their home country datasets
  + - Uploading data and metadata
    - Styling and visibility
    - Composing and publishing maps
    - Data and map access in GeoNode
    - Map sharing and printing
    - User and permission administration
    - Usage statistics

**Day 2 - Tuesday 19th February**

**Working with GIS data**

### Using Open Source desktop Quantum GIS (QGIS);

### Managing, Editing and Features maintenance;

Advanced map projections;

**Morning Session**

* Using Open Source desktop Quantum GIS (QGIS);
  + - QGIS concept and Overview
    - Installation of QGIS (OS desktop GIS)
    - Introduction QGIS Module
      * + QGIS Browser
        + QGIS Desktop
        + Plugins
    - Navigate with QGIS;
      * + Interface Overview
      * Menu / Toolbar / Map View / Layer List / Status bar
        + Working with Toolbars
        + Pan, Zoom, Identifying features;
        + Selecting Features;
      * Set selectable layers
      * Select feature by attribute
      * Query, how to search by attribute
        + Join Tabular data;

**Afternoon Session Lab activities**

* Editing features and maintenance;
  + - Data entry
    - Editing new and existing vector layer
* Coordinate Systems and Maps Projection;
  + - Coordinate system (Lat/Lon)
    - Map projections (3D to 2D)
    - Map projection families
    - Distortions
    - Working with coordinate systems
      * + Datum
        + Common datums in the Caribbean
        + Datum shift from local datum to WGS84
* Managing Coordinate Reference Systems (CRS) with QGIS;
  + - Setting project’s CRS
    - Reprojecting

### Day 3 - Wednesday 20th February

### Integrating GeoNode into existing GIS workflow;

### OSM (Open Street Map): mapping concepts, tools;

### Fieldwork for collecting exposure data;

### Data Quality Control (QA/QC);

**Morning Session**

* Integrating GeoNode into existing GIS workflow;
  + - Direct access to GeoServer
      * + Styling with SDL
        + Adding data from external databases
    - External access to GeoNode: use from GIS clients
      * + Access to Web Map Services (sample with Web and desktop GIS clients)
        + Access to Web Feature Services (query, display and edit from desktop GIS)
        + Access to Catalog Service (from desktop GIS)
    - On-screen data collection (OSM, BingMaps, GEarth, etc.);

**Afternoon Session Lab activities**

* GPS/mobile data collection - Fieldwork;
* Data Inspection QA/QC and processing from desktop GIS (QGIS)
* Uploading field work data into GeoNode;

### Day 4 - Thursday 21st February

### Introduction to Spatial Data Infrastructure SDI;

### SDI Technological Components and Standards;

**Morning Session**

* Introduction to Spatial Data Infrastructure SDI
  + - Concept of SDI
    - Components and node structure
    - National SDI
      * + Definition
        + Towards a NSDI
        + Key elements
        + Benefits for organizations and professionals
    - SDI implementation examples
* SDI technological components and standards;
  + - Three-tier architecture and the SDI ‘stack’
      * + Spatial databases, Web services, client technologies (desktop and Web GIS)
    - Standards for basic Web services and their use
      * + Web Map Service: getting maps as images,
        + Web Feature Service: getting geometry and attributes by query,
        + Web Coverage Service: getting raster values,
        + Catalog Service: searching for data via metadata
    - Advanced Web services
      * + Tiled Maps, Transactional WFS, Web Processing Service
        + Current trends in SDI technology

**Afternoon Session Lab activities**

* Open discussion on NSDI;
  + - Status of GeoNode implementation and use
      * + Participants of already implemented GeoNodes countries will give a 15 min presentation on the status and use of GeoNode in their home countries
      * SLU - SVG - DOM - GRE
        + Participant comments on presentation. Discussion on issues and constrains.
    - Discussion on the Status of national policies on information sharing
    - Definition of basic data themes and other data related standards for regional data sharing and cooperation, including available spatial data, its sources, the use and frequency, and users.
    - Examine needs and requirements of the NSDI and RSDI of the Eastern Caribbean

### Day 5 - Friday 22nd February

### Advanced metadata concepts;

### Advanced cartography;

**Morning Session**

* Metadata concepts;
  + - Concept and use in search and documentation
    - ISO standards
    - Required and optional information
    - Best practices
    - Metadata tools
* Advanced cartography;
  + - Title and other information on map
    - Choosing appropriate scale
    - Rendering (color, legend etc)
    - Color in the computer screen vs. color in the printed materials
    - Fonts (size, placement)
    - Digital cartography vs paper cartography
    - Map presentation with charts, tables and other visual aids;

**Afternoon Session**

* **CARISKA RISK ATLAS Presentation**

### Day 6 - Saturday 23rd February (Half day)

### Building collaboration with Software Developers and Data Managers;

### Networking and strengthen links;

### Team’s experience interchange;

**Morning Session**

* Final Hands-on exercise ***[just and idea for this day…]***
  + - A pilot application produced by the SD team could be integrated into GeoNode
    - Data managers team will provide data collected/produced during training
    - Test run of the application
    - Output generation and conclusions
* Sharing and collaboration with GeoNode online

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**Training Datasets**

We are requesting the following spatial data in ESRI compatible format, vector format .shp, raster geo-tiff (.tif).

Dataset will be uploaded to GeoNode and use during the training:

|  |  |  |  |
| --- | --- | --- | --- |
| **Dataset Name** | **Feature type** | **Name convention** | **Metadata** |
| Coastline | Line | XXX\_Coastline | YES |
| Gazetteer (place names) | Point | XXX\_Gazet | YES |
| Rivers/streams | Line | XXX\_Hydro | YES |
| Lake/pond/dams | Polygon | XXX\_Pond | YES |
| Rail | Line | XXX\_Rail | YES |
| Roads (centre line) | Line | XXX\_RoadCline | YES |
| Roads (edge of pavement) | Line | XXX\_RoadEOP | YES |
| Building footprint | Polygon | XXX\_Bldgfoot | YES |
| Parish boundaries | Line | XXX\_Parish | YES |
| Emergency shelters | Point | XXX\_Shelter | YES |
| Emergency district | Polygon | XXX\_DMA\_Dist | YES |
| Flood Hazard Zone  Inland Erosion Zone  Coastal Erosion Zone  Volcanic Hazard Zones  Critical facilities | Polygon  Polygon  Polygon  Polygon  Point | XXX\_Flood\_Risk  XXX\_IEros\_Risk  XXX\_CEros\_Risk  XXX\_Volcano\_Risk  XXX\_Crit\_Fac | YES  YES  YES  YES  YES |
| Landuse/Landcover | Polygon | XXX\_Landu/XXX\_LCover | YES |
| Hillshade model | Raster (gtif) | XXX\_Hillshade\_nn | YES |
| DEM | Raster (gtif) | XXX\_DEM\_nn | YES |
| Orthophoto | Raster (gtif) | XXX\_[name]\_YY | YES |

XXX: Country initials, e.g. Saint Lucia - SLU, St. Kitts and Nevis - SKN, St. Vincent and the Grenadines - SVG

[name]: place name, location, or mosaic cell name, e.g. SKT\_31D\_01

nn: Cell resolution, raster resolution, e.g. SKN\_DEM\_10 = 10m, SKN\_DEM\_30 = 30m

YY: a two digits representing the dataset’s production year, e.g. 00 = 2000, 07 = 2007

To avoid projection issues (error) when uploading data into GeoNode, we are requesting all data layers should defined in plain GCS WGS84 unprojected (EPSG 4326).

For exercise purposes all participants should bring datum shift from local projection to WGS84 (a 3 or 7 parameters transformation)