QGIS and InaSAFE Training

Makerere University, Kampala, July 3 - 7 2017

What is InaSAFE?

InaSAFE (http://inasafe.org) is free software that produces realistic natural hazard impact scenarios for better planning, preparedness and response activities. It provides a simple but rigorous way to combine data from scientists, local governments and communities to provide insights into the likely impacts of future disaster events.

Who is the course for?

- Geography and DRM students
- DRM specialists, academics and professionals
- Government DRM officers

Expected outcome

The aim of this course is to give Disaster Management researchers and practitioners a solid grounding in QGIS and InaSAFE and OSM, including software setup, data processing and preparation, Disaster Risk Management (DRM) modelling concepts, analysis, and customisation.

Trainers

Tim Sutton, Gavin Fleming, Etienne Trimaille (Kartoza)

Software

We will use QGIS 2.14 LTR with InaSAFE 4.

Schedule

Monday July 3: OpenStreetMap Workshop part 1

This introductory half day workshop provides an overview of OpenStreetMap concepts, tools and data model. The goal of the workshop is to familiarize participants with tools for mapping exposure information that will then be used as input to hazard impact models in InaSAFE. There are no prerequisites to participate, but having a DRM or GIS experience will be advantageous.

Times	**Module**	
morning	Presenter arrival and setup	
13h00	Student arrival	
14h00	Welcome and introduction	
	Introduction to OSM	
	Using online and desktop editors to trace imagery for baseline mapping.	
15h30	BREAK	
16h00	Field data collection tools	
17h00	CLOSE	

Tuesday July 4: Introduction to InaSAFE Day 1

Attendee profile: You are computer literate. You need to know about DRM for your job or studies or are interested in learning. You do not need any GIS or DRM experience, nor programming or scripting skills.

Today we introduce you to the GIS and DRM concepts necessary to understand and work with InaSAFE.

Times	**Module**	
09h00	QGIS overview * Navigating map data with QGIS * Basics of attribute data in QGIS * Basics of QGIS Styling * Basics of QGIS Labelling * Creating a new dataset in QGIS * First steps in digitising with QGIS	
10H30	BREAK	
11H00	Vector and raster data	
	Continuous and classified data	
13h00	LUNCH	
14H00	Introducing the InaSAFE project	
	What is **disaster risk management**?	
	What is a **hazard**?	
	What is **exposure**?	
15h30	BREAK	
16h00	What is aggregation?	
	Exercise: Run your first simple analysis!	
17h00	CLOSE	

Wednesday July 5: Introduction to InaSAFE Day 2

Times	Module	Detail
09h00	Exercise: InaSAFE from first principles	
10H30	BREAK	
11H00	Focus on Hazards	
13h00	LUNCH	
14H00	Focus on Exposure	
15h30	BREAK	
16h00	Focus on aggregation	
17h00	CLOSE	

Thursday July 6: InaSAFE in Depth

Attendee profile: You have either attended Day 1 and 2 (Introduction to InaSAFE) or meet all three of these criteria: 1) you have a DRM background; 2) you are familiar with QGIS; 3) you are familiar with InaSAFE

Times	Module	Detail
09h00	InaSAFE tools part 1: * OSM Downloader * PetaBencana * Multibuffer tool	
10H30	BREAK	
11H00	InaSAFE tools part 2: * Minimum needs profile manager * Minimum needs tool * Batch runner	
13h00	LUNCH	

14H00	Advanced InaSAFE * Creating custom reports with composer and atlas * Defining hazard thresholds and value mappings	
15h30	BREAK	
16h00	Community engagement	???
17h00	CLOSE	

Friday July 7

OpenStreetMap Workshop part 2

Now that you've learnt how to capture OSM data, how to use it in InaSAFE and been exposed to OSM data structures, we will go into OSM data in greater depth.

Times	**Module**	**Detail**
9h00	Quality assurance in OSM	
10h30	BREAK	
11h00	From OSM formats to GIS formats using QGIS	
13h00	LUNCH	
	Docker-OSM	
	Tagging data for InaSAFE	
	Tips for capturing clean data for InaSAFE	

Friday afternoon

Track 1: InaSAFE localisation and strategy workshop

This will be a facilitated group session where we discuss and workshop various aspects of InaSAFE, including:

- Developing minimum needs information for your country
- Sourcing and acquiring hazard and exposure data
- Feedback about InaSAFE and how to take it into the future
- Identifying intern developers for the GFDRR internship programme with Kartoza

July 7: Track 2 (optional) Developer Training / Code sprint

Attendee profile: You are highly computer literate. You have a good understanding of DRM and GIS concepts. You have programming / scripting skills (preferably Python) OR you can write software documentation.

Outline

- Set up QGIS Python / InaSAFE dev environment
- InaSAFE debugging and testing
- Extend and modify InaSAFE
- Work on InaSAFE documentation and translation

This training course is co-financed by the EU-funded ACP-EU Africa Disaster Risk Financing Program, managed by the Global Facility for Disaster Reduction and Recovery.