



Using the shakemap importer tool in InaSAFE

“The shakemap importer tool provides a quick way to generate an earthquake raster hazard dataset from a USGS grid file.”



InaSAFE can work with earthquake hazard datasets. These data are usually created by a network of seismic sensors that send shake levels back to a central server which then runs a model to generate a grid file (a USGS Grid File). This file is in XML format and cannot be read directly by QGIS or other GIS software. The grid file is usually made available by government agencies soon after the shake event. InaSAFE can convert this file into a single band raster layer which can then be used to run InaSAFE analyses.



You try:

Goal: *To generate an earthquake hazard layer from a shake grid dataset and use it in an analysis.*

Use the Shakemap Converter (there is no toolbar icon for it so look in the Plugins -> InaSAFE submenu) with options as indicated on the table, right.

When the layer is added to QGIS, zoom to the whole layer. Review the keywords created for the layer and see if you can understand them.

Add the buildings layer from your exercise-data directory. Run an analysis to see what the impact of the earthquake might be on buildings.

Requirement	Value
Input file (grid.xml)	Exercise-data/grid.xml
Title	Training shake in Dar es Salaam
Source	InaSAFE contrived data
Output	Leave unchanged
Add output to QGIS	Yes
Launch keywords wizard	No
Algorithm	Nearest Neighbor

Special Note: The shakemap used in this exercise is **NOT REAL** – we created it for the purposes of having a training dataset, do not interpret it as an actual event that occurred in Tanzania.

Check your results:

- ✓ How many buildings were affected in each hazard zone? Do your results match your neighbour's?



More about the shakemap importer tool

The goal of the shakemap (grid.xml) importer tool is to make it easy to convert shakemaps into usable hazard data in InaSAFE. The input data is in a format that cannot be directly opened by QGIS, so during the conversion process, it will be converted to a **GeoTiff** single band raster image. The converter will also assign a QGIS **style** to the converted image so that it is easy to interpret visually.

Shakemaps are published and freely available by the USGS (and National Institutions in other countries) soon after earthquake events happen.



Check your knowledge:

1. InaSAFE does not using grid.xml files directly:

- a) true
- b) false

2. Mark all the correct statements:

- a) The shakemap converter tool provides a way to run an analysis with hazard data derived from shakemap data.
- b) The shakemap converter tool converts a GeoTIFF to a grid.xml file.
- c) After the shakemap is imported, InaSAFE will automatically create InaSAFE keywords for the new layer.



Further reading:

See the shakemap importer tool section in the InaSAFE user manual at:

<http://manual.inasafe.org/en/index.html#shakemap-converter>