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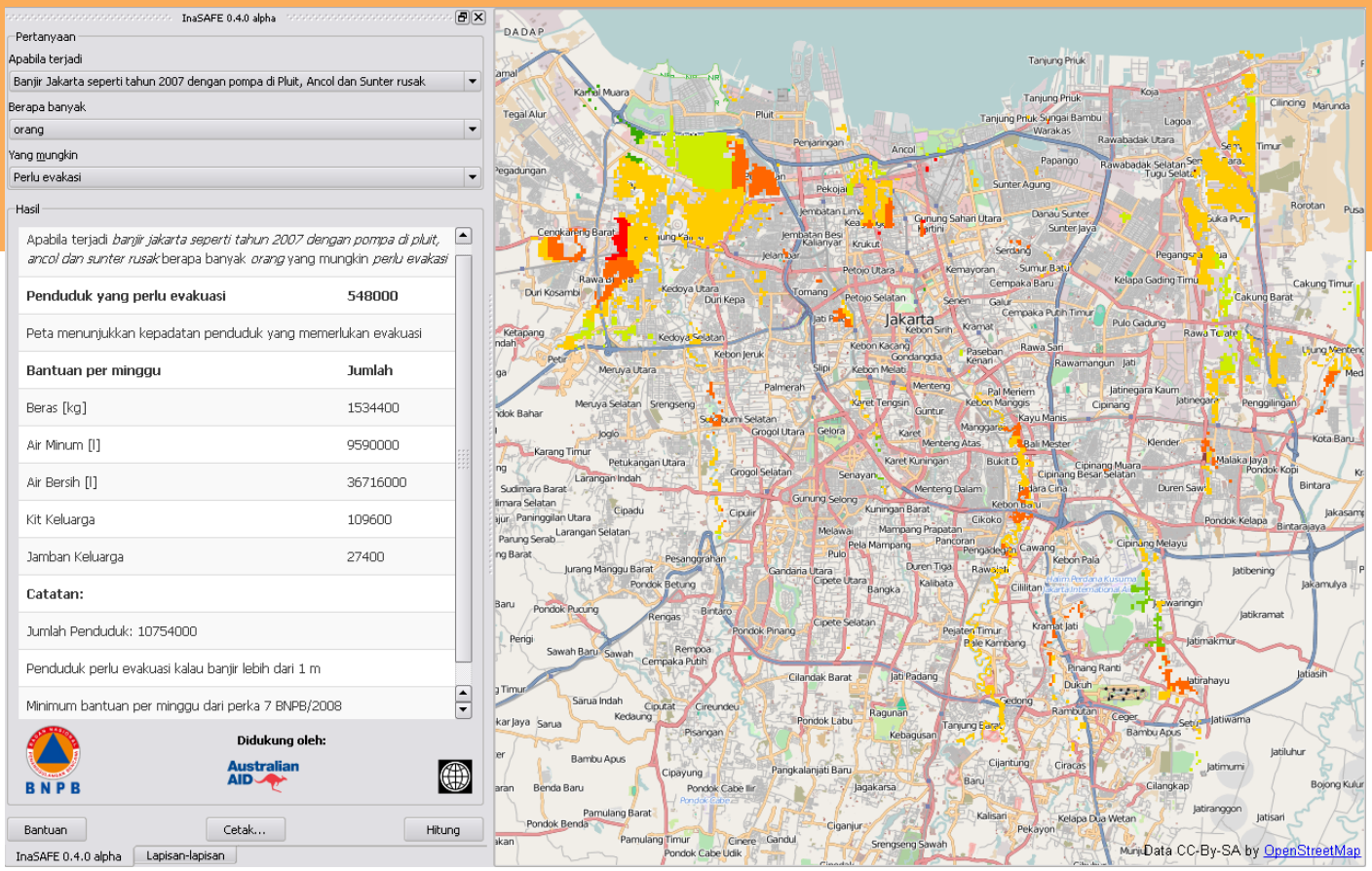
InaSAFE

Indonesia Scenario Assessment for Emergencies



INDONESIA SCENARIO ASSESSMENT FOR EMERGENCIES (INASAFE)

Is free software that produces **realistic natural hazard impact scenarios** for better planning, preparedness and response activities.

Concept

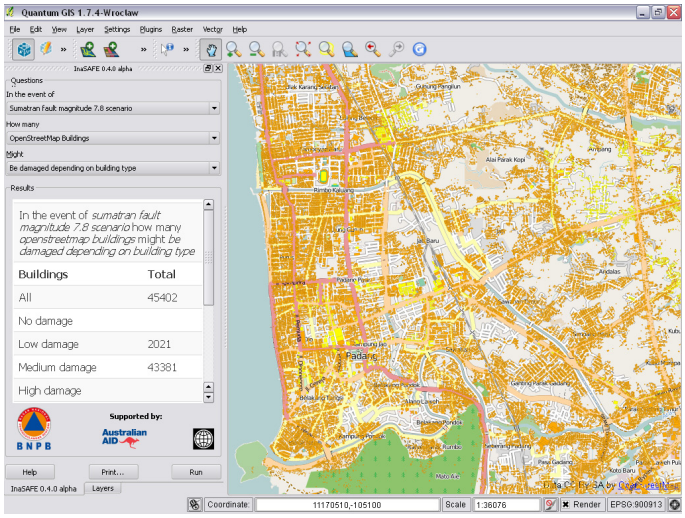
To effectively prepare for future floods, earthquakes or tsunami you must first understand the likely impacts that need to be managed. For example, to prepare contingency plans for a severe flood in Jakarta, emergency managers need to answer questions like:

- what are the areas likely to be affected;
- how many people will need to be evacuated and sheltered;
- which schools will be closed;
- which hospitals can still take patients; and
- what roads will be closed?

InaSAFE

How does it work?

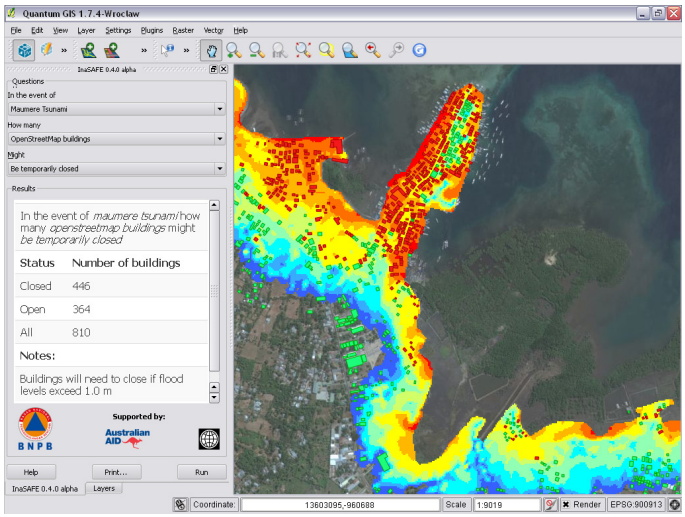
InaSAFE provides a simple but rigorous way to combine data from scientists, local governments and communities to provide insights into the likely impacts of future disaster events. The software is focused on examining, in detail, the impacts a single hazard would have on specific sectors. e.g. location of primary schools and estimated number of students affected by a possible tsunami in Maumere.



Who can use it?

Anyone with basic computer skills can quickly learn to use **InaSAFE** to explore the potential impacts of a disaster event and to produce maps and reports of these impacts. The software leads a user through the process of asking specific questions and then estimating the likely damage that a hazard will cause to people and critical infrastructure such as schools, hospitals, roads, etc.

> *Because the software is free and open, more advanced users can also add new questions and data from new sectors.*



Where does the data come from?

Effectively preparing for a disaster requires people from a wide range of sectors and backgrounds to work together and share their experience, expertise, and resources. Using **InaSAFE** to develop a scenario requires the same spirit of cooperation and sharing of expertise and data.

InaSAFE is designed to use and combine existing data from science agencies, local governments, and communities. Normally, information on the location of people and important assets are provided by local communities and government departments responsible for each sector, often through a facilitated part of a disaster preparedness and planning exercise.

Where spatial data doesn't exist, external tools such as OpenStreetMap (www.LearnOSM.org) can allow governments and communities to quickly and easily map assets that are important to them.

It is important to note that **InaSAFE** is not a hazard modelling tool. Information on hazards needs to be provided either by technical experts, often from Government agencies, universities or technical consultants, or from communities themselves based on their previous experiences.

The more communities, scientists and governments share data and knowledge, the more realistic and useful the **InaSAFE** scenario will be.

Where do I get more information?

The **InaSAFE** website (www.inasafe.org) has more information and instructions for installing **InaSAFE**.

InaSAFE was conceived and initially developed by the Indonesia's National Disaster Management Agency (BNPB) and the Australian Agency for International Development, through the Australia-Indonesia Facility for Disaster Reduction, the World Bank - Global Facility for Disaster Reduction and Recovery (GFDRR).

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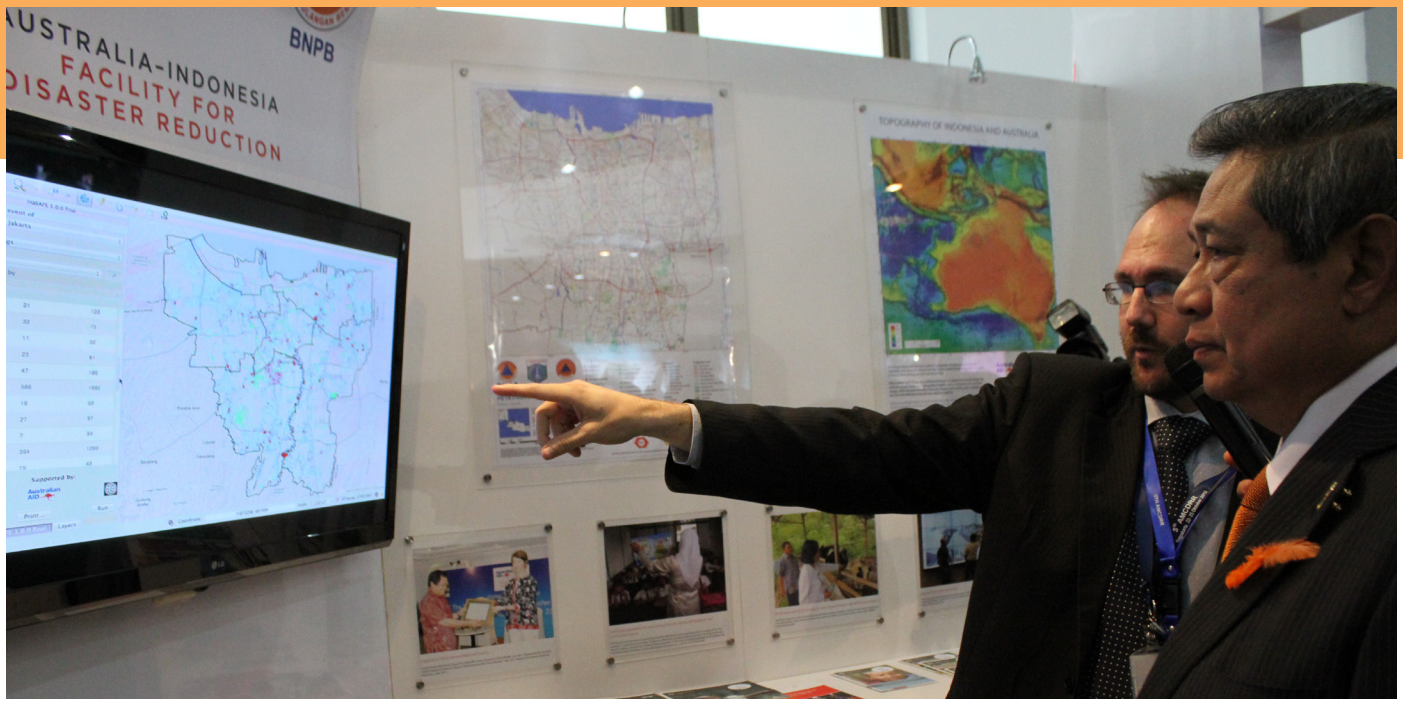
Building an InaSAFE community in Indonesia and beyond



Indonesian President Dr Susilo Bambang Yudhoyono praised InaSAFE as being

"very beneficial for us all"

InaSAFE, free software that produces realistic natural hazard impact scenarios for better planning, preparedness and response activities, was launched at the 5th Asian Ministerial Conference for Disaster Risk Reduction in Yogyakarta in October 2012.

Since then the **InaSAFE** team has been working to make the software even more effective. Version 1.2 will be released in June 2013 with new features that will allow users to directly download OpenStreetMap buildings directly into Quantum GIS (Open Source GIS software, and the platform for **InaSAFE**). It will also allow potential disaster impacts to be broken down into small areas (by administration boundaries), so that disaster managers can understand the impacts in their jurisdictions. The new version will also have updated manuals, training materials and website (www.inasafe.org).

ROOKIE OF THE YEAR
BLACKDUCK
OPEN SOURCE
2012

InaSAFE has been recognised by Black Duck as one of the top Open Source programs to begin in 2012. It was selected for this prestigious award from amongst 1,000's of new open source software projects.

InaSAFE

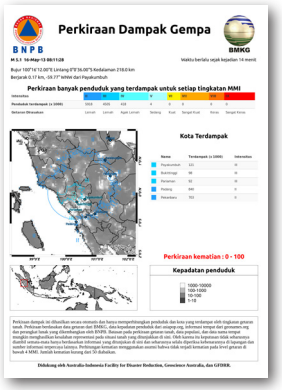
Integrating Science, Local Knowledge and Disaster Management

InaSAFE is a tool that integrates scientific and local knowledge about hazard with detailed spatial information on important infrastructure such as schools and hospitals to understand impacts. Indonesia's National Disaster Management Agency (BNPB) and the Australian funded Australia-Indonesia Facility for Disaster Reduction (AIFDR) have been working together to build the capacity of Indonesia's science agencies to develop fundamental scientific information about the threats Indonesia faces from hazards such as earthquakes, tsunami and volcanos.

At the same time, BNPB and AIFDR are working with the Humanitarian OpenStreetMap Team and communities to map the location of buildings, from residential homes to schools and hospitals. This program has seen over ***600 people trained*** in OpenStreetMap with nearly ***one million buildings mapped*** in OpenStreetMap across Indonesia since 2011.

InaSAFE and emergencies

InaSAFE is a practical tool that can be used during disaster events. For example, it has been designed to automatically get the latest earthquake information from Indonesia's Agency for Meteorology, Climatology and Geophysics (BMKG) and combine this with population density to estimate the number of people impacted by an earthquake immediately after the event. The continuing development of the software will allow policy makers and disaster managers to understand, in real time, the scale of the disaster, allowing them to prioritise distribution of resources to the areas most affected and determine the number of relief items needed.



Building an InaSAFE Community

Indonesia

The key to open source software is the community that supports the project. What is unique about **InaSAFE** is that it pulls together scientists and communities to help support policy makers and disaster managers. BNPB and AIFDR have been working towards building this community through presentations, workshops and trainings. To date over 150 Indonesian disaster managers across six provinces have been trained in **InaSAFE**, as well as data collection through OpenStreetMap, and basic GIS through Quantum GIS.

The training culminated in 25 people across the six provinces (from government, NGOs, CSOs and universities), successfully trained to become **InaSAFE** trainers for their region. Additional training programs will be undertaken in Indonesia. The **InaSAFE** team is also initiating training to the open source developer community in Indonesia by targeting specific software scripting communities as well as the Indonesian Agency for Assessment and Application of Technology (BPPT).

World

Indonesia, Australia and the World Bank - Global Facility for Disaster Reduction and Recovery (GFDRR) are also taking the training to the region and beyond. In March 2013, BNPB and AIFDR staff conducted **InaSAFE** training for disaster managers and government scientists at the ASEAN Risk Assessment Forum, held in Bangkok. 90% of trainees said that they would like to use **InaSAFE** in their day-to-day work.

The World Bank-GFDRR has also started to socialise the concept of **InaSAFE** across the world, with many countries keen to receive support in implementing the software. In May 2013, the World Bank-GFDRR kicked off a new collaborative initiative with the Philippines Government, that included integration of **InaSAFE** into its existing disaster preparedness system.

> *"InaSAFE is a useful tool in preparing for disaster response. What is good about it is that it can be adapted and enhanced by individual countries to suit their risks."*

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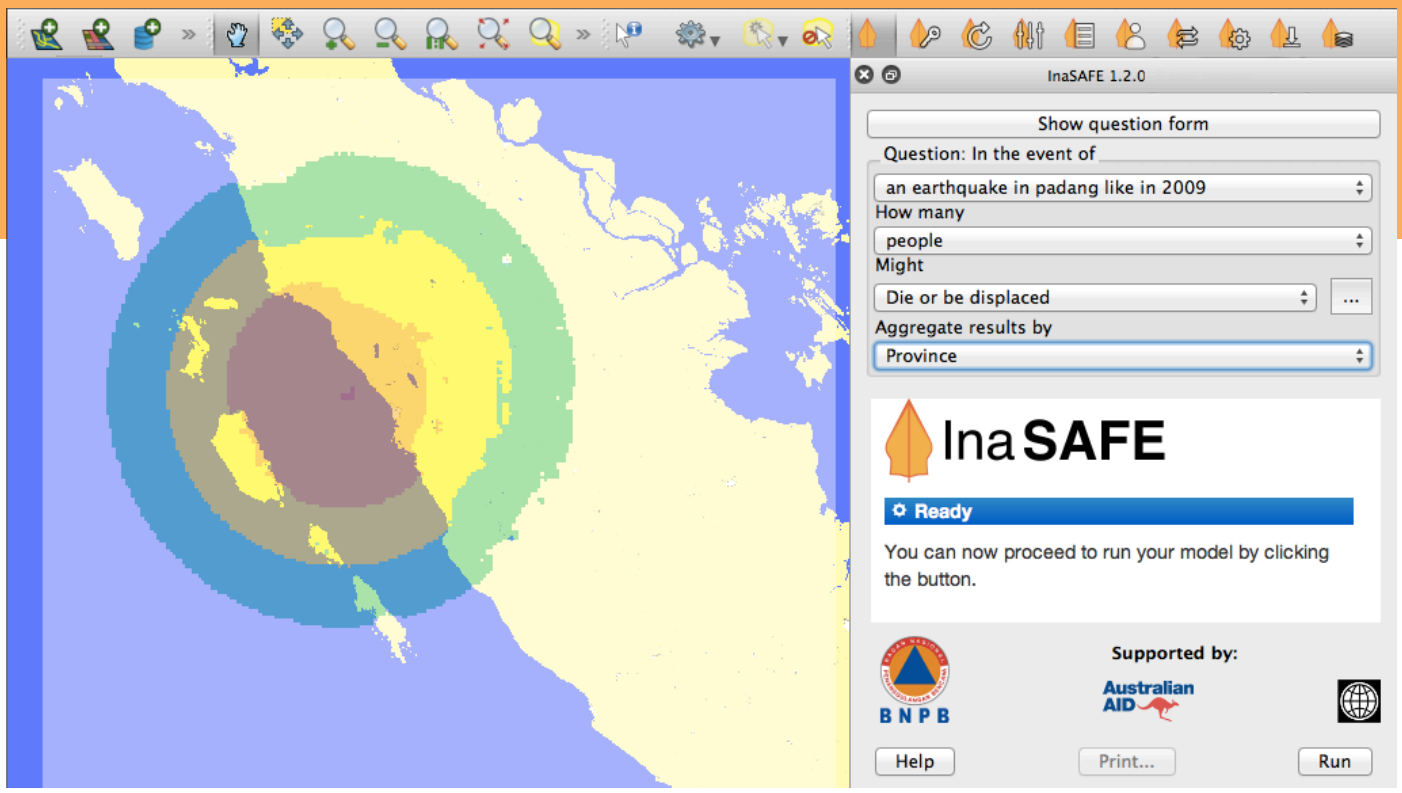
Version 1.2.0 - Sept 2013



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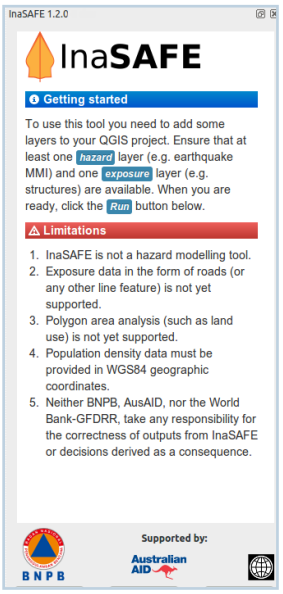
New Release

This release represents a major step forward in the **InaSAFE** project with the addition of key new features to support aggregation and post processing for demographic analysis. **InaSAFE** has also received an interface and error messaging makeover and new tools for scenario assessment. There are also many changes you can't see easily - including a major revision of source code to improve consistency and organisation.

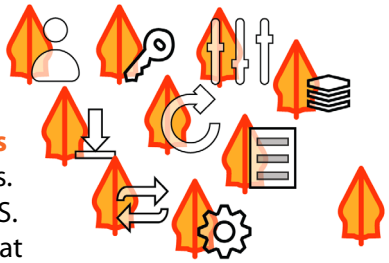
We've been hard at work to support multiple languages in every part of the project including our website, the application user interface help documentation and more. If you have any questions or want to contribute to the project contact us at our new email address: **info@inasafe.org**

- The InaSAFE team

InaSAFE



KEY NEW FEATURES

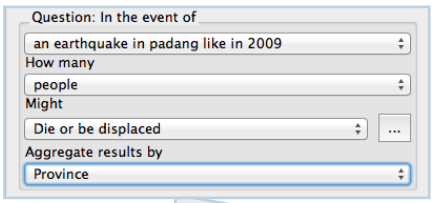


User Interface

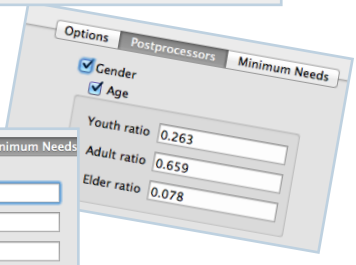
We have updated the branding of **InaSAFE** to reflect **InaSAFE's** new logo, the 'gununganwayang',bringing together of 2 halves. Additionally, we have overhauled the **InaSAFE** panel in QGIS. The question area now hides itself based on the context of what you are doing so that you have more space to view your report. The report area has also been revamped with clearer layout and the inclusion of **InaSAFE** branding.

Impact Functions

Aggregation and postprocessing

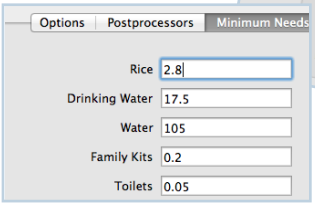


InaSAFE prides itself on simplicity, but with each question answered a new one arises. ***"In the event of <hazard> how many <exposure> will be affected?",*** is the core question that is answered by **InaSAFE**, but **v1.2.0** adds to this by providing options to divide your results by area such as province boundaries. **v1.2.0** also allows users to input statistics about their population, such as percentage elderly, adult and infants as well as gender. This will allow the users to understand who may be most affected by a disaster.



Minimum needs

All impact functions which use population for exposure will now compute minimum needs based on BNPB's standard 'Perka 7' guideline. In addition, this guideline for total weekly relief items per person can be overridden in the new impact function configuration options dialog.

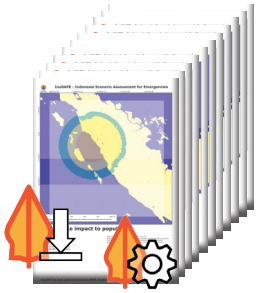


Tools

OpenStreetMap Building Downloader

InaSAFE impact functions support the use of various building datasets, in particular, building footprints sourced from the OpenStreetMap project (OSM). **InaSAFE v1.2.0** now provides a simple tool for importing building data directly from OSM without having to go through a 3rd party source.

Batch Runner and Save Scenario



Ever wanted to re-run **InaSAFE** for multiple scenarios with a study area you have saved in the past? The new batch runner and save scenario tools allow the user to setup numerous scenarios and run them in one go! Using this approach you can quickly produce regional contingency plans as new scientific hazard models or community understanding develops. When you run the batch of scenarios, pdf reports are generated automatically and placed into a common directory making it easy for you to browse and disseminate your reports.

Shakemap importer

BMKG USGS science for a changing world

When **InaSAFE** calculates the impact of an earthquake it generally uses a 'Shakemap' to define the intensity of ground motion. Normally,Shakemap's are distributed as grid.xml files which are not usable in **InaSAFE** or QGIS. The Shakemap importer converts the file and creates a keyword file so that it can be used immediately for analysis in **InaSAFE**. This is the first of many converter tools!

Minimum needs tool

During a disaster you don't need a scenario to tell you how many people need evacuating, as you receive these numbers from the field. However **InaSAFE** can provide a quick way of calculating the minimum needs that must be distributed to each refugee camp. **InaSAFE** is starting to develop tools for post disaster analysis, this minimum needs tool is just the beginning!

Website

We are pleased to announce our new website at **www.inasafe.org.** The new site sports our new branding, is fully translatable, includes a 'what's new' section and comprehensive documentation (developer, user and training).

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