QGIS + InaSAFE

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not 'Indonesia specific'.

The underlying goal of InaSAFE is to encourage and facilitate better planning for disasters - our slogan is **"better planning saves lives"**.

Each country in the world faces its own unique challenges. According to the Global Assessment Report GAR for Indonesia the chief concerns are Volcanoes and Floods - other countries will face different challenges.

InaSAFE Website

http://inasafe.org/

GFDRR

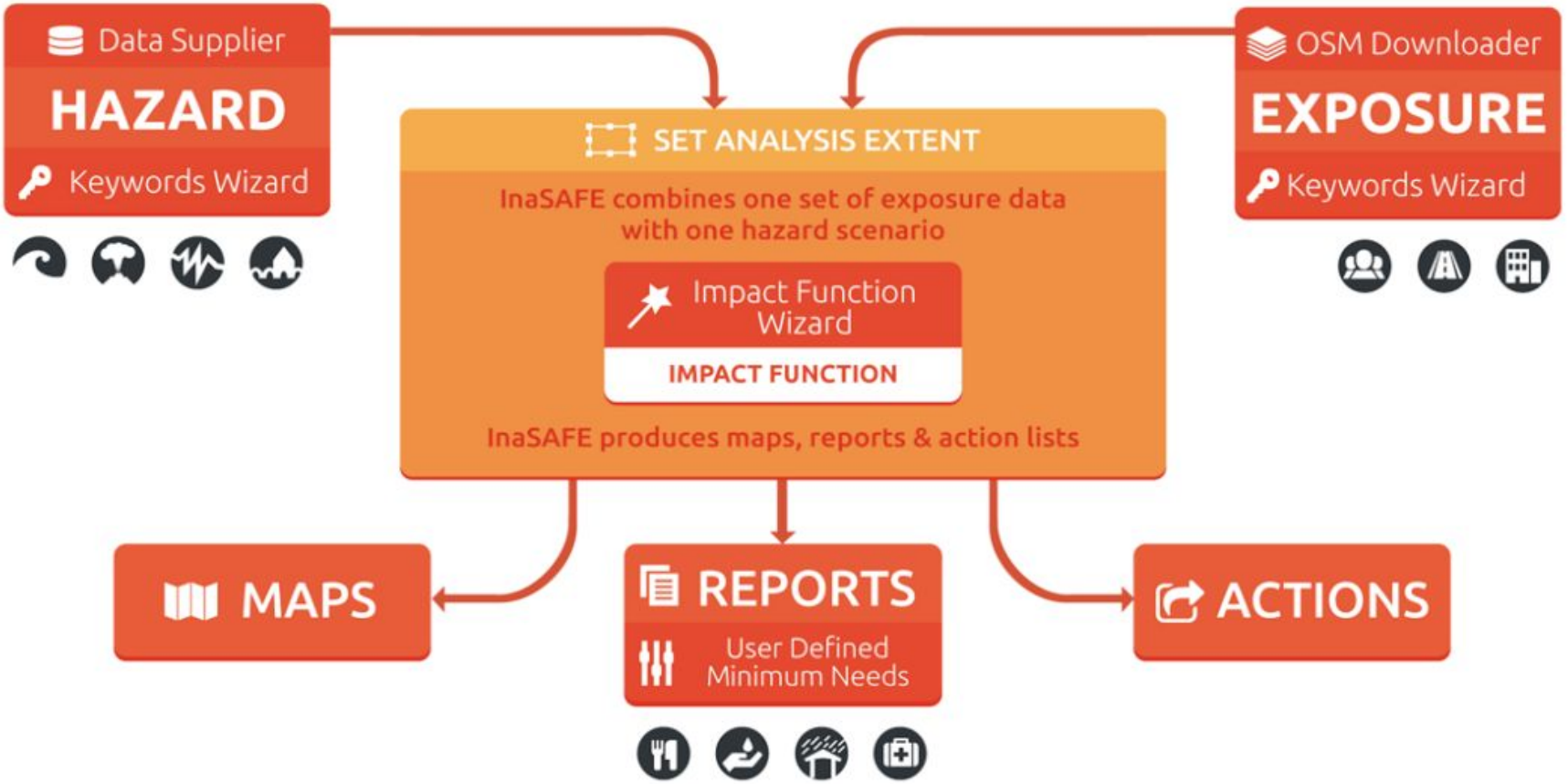
Global Facility for Disaster Reduction and Recovery

Australian Aid

BNPB

AUSTRALIA-INDONESIA
FACILITY FOR
DISASTER REDUCTION

Supported by GFDRR and the Australia-Indonesia Facility for Disaster Reduction



Exposure data layer (e.g. location of buildings)
\+ **Hazard scenario** (e.g. footprint of flood)
= **Spatial impact layer**
(statistical summary + action questions)

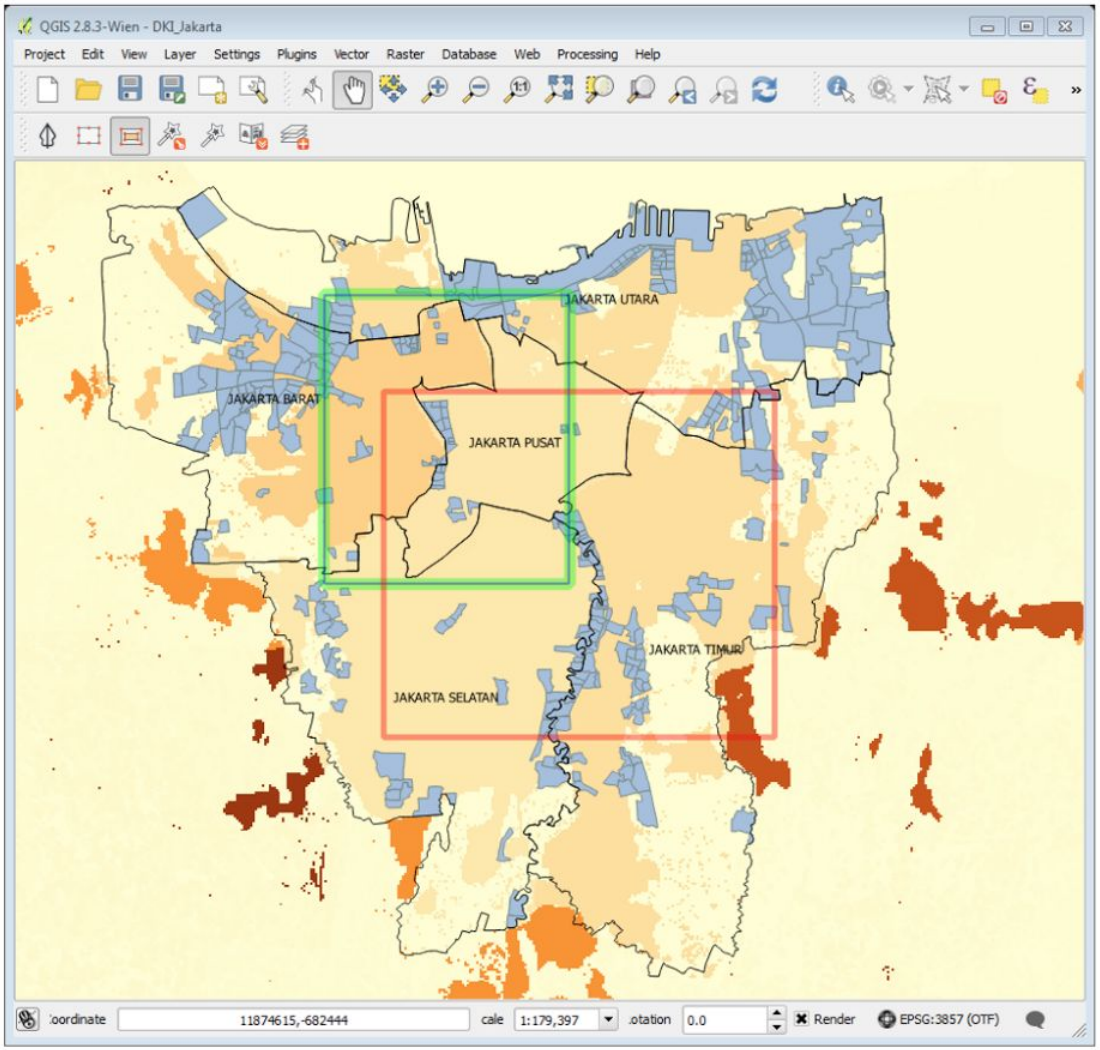
Flood
Earthquake
Lava Flow
Ash Fall
Tsunami

Chemical Spill
Nuclear Plant Failure
Industrial Fire/Explosion

Any natural or human caused event or series of events that may negatively impact the population, infrastructure or resources in a area

Roads
Buildings
Population/People

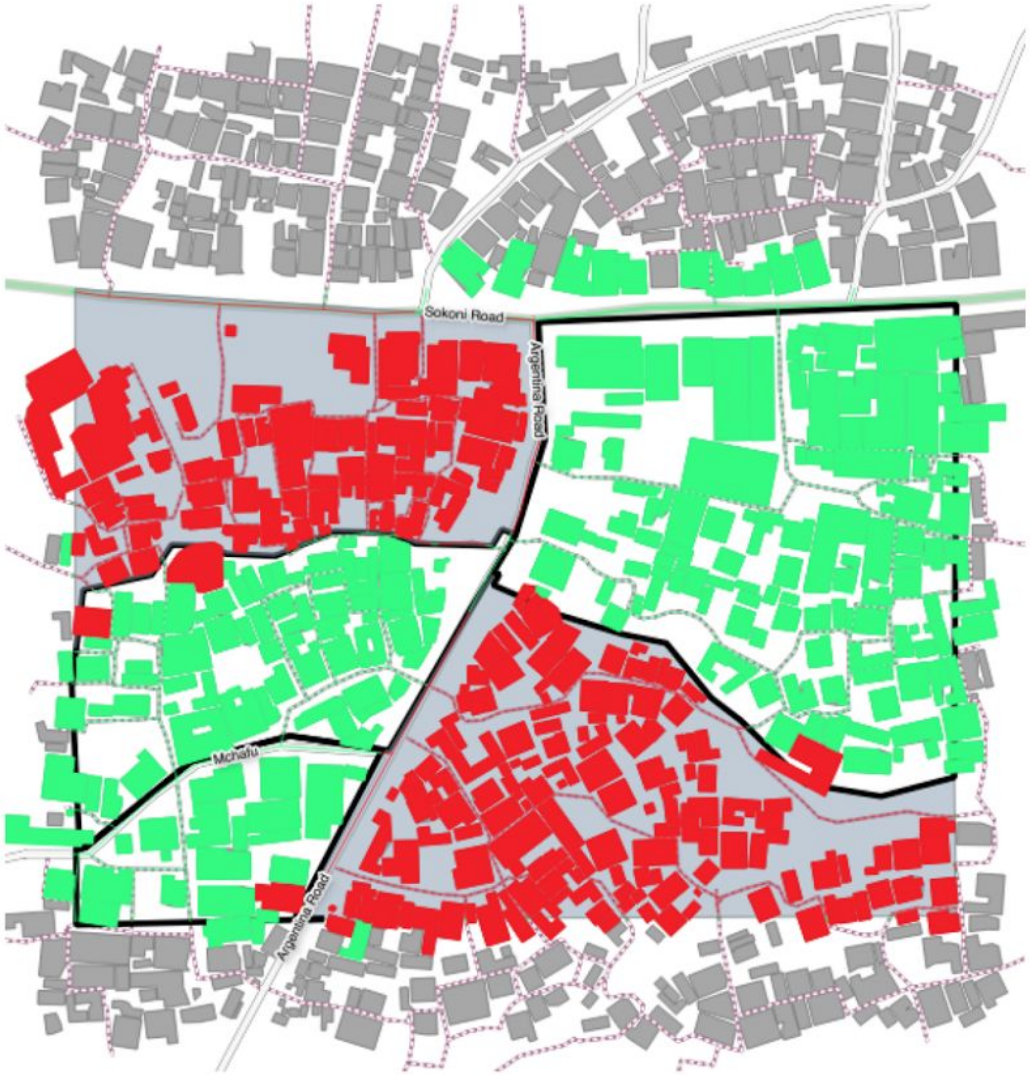
Exposure refers to people, infrastructure or land areas that may be affected by a disaster



Must specify the analysis extent with a bounding box

Algorithm that determines impact of a hazard on the selected exposure

Does not model hazards but the effects



Impact layer

New dataset produced as the results of running the impact function

InaSAFE

Analysis Results

In the event of tandale-floods how many buildings might be flooded

Hazard Category	Buildings Affected
Flooded	247
Buildings Not Affected	**242**
All Buildings	**489**

Building type	Flooded	Total
Other	2	2
Residential	245	245

Action Checklist:

- Are the critical facilities still open?
- Which structures have warning capacity (eg. sirens, speakers, etc.)?
- Which buildings will be evacuation centres?
- Where will we locate the operations centre?
- Where will we locate warehouse and/or distribution centres?

Notes

Buildings are said to be inundated when in a region with field "FLOODPRONE" = "YES" .

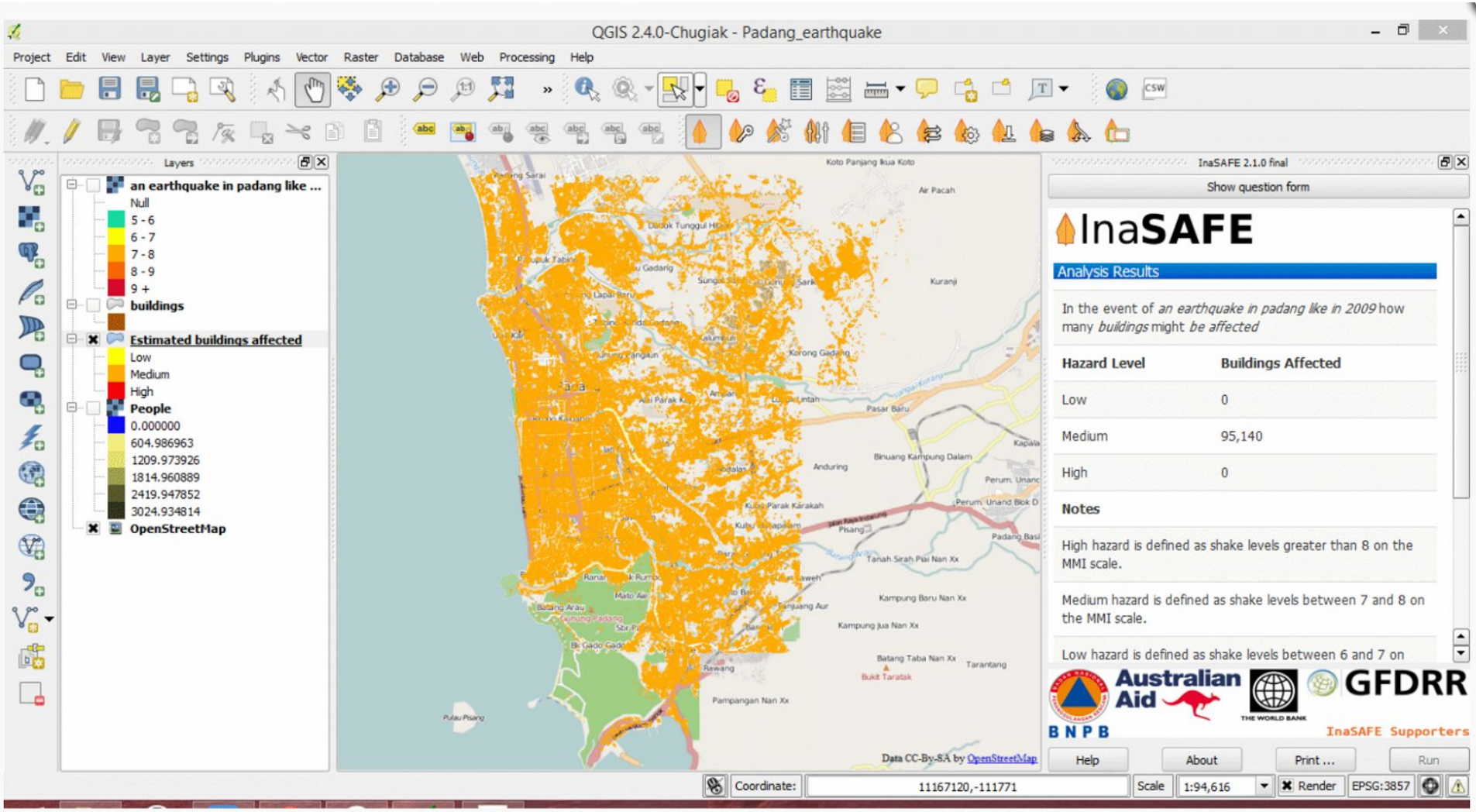
Impact Summary

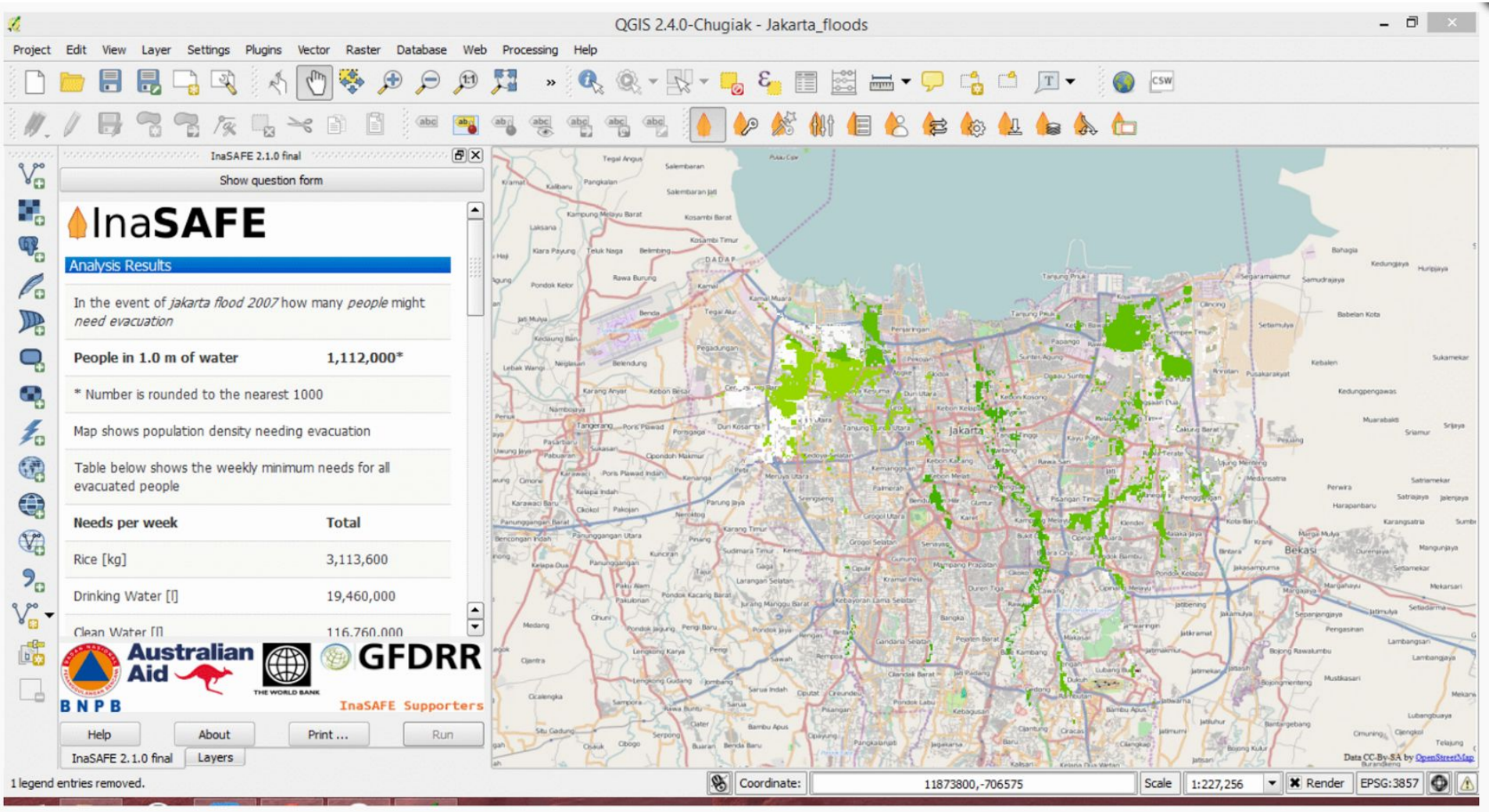
Provides a table(s) and other textual information with the number of buildings, roads or people affected

Needs should be provided weekly	Total
Rice [kg]	56
Drinking Water [l]	350
Clean Water [l]	1,340
Family Kits	4
Needs should be provided single	**Total**
Toilets	1

Other information including population minimum needs breakdowns (population) and action checklists (disaster management).

Action Checklist:
How will warnings be disseminated?
How will we reach stranded people?
Do we have enough relief items?
If yes, where are they located and how will we distribute them?
If no, where can we obtain additional relief items from and how will we transport them to here?


QGIS 2.4.0-Chugiak - Padang_earthquake
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
Layers
an earthquake in padang like ...
Null
5 - 6
6 - 7
7 - 8
8 - 9
9 +
buildings
Estimated buildings affected
Low
Medium
High
People
0.000000
604.986963
1209.973926
1814.960889
2419.947852
3024.934814
OpenStreetMap
Data CC-By-SA by OpenStreetMap
InaSAFE 2.1.0 final
Show question form
InaSAFE
Analysis Results
In the event of an earthquake in padang like in 2009 how many buildings might be affected
Hazard Level
Buildings Affected
Low
0
Medium
95,140
High
0
Notes
High hazard is defined as shake levels greater than 8 on the MMI scale.
Medium hazard is defined as shake levels between 7 and 8 on the MMI scale.
Low hazard is defined as shake levels between 6 and 7 on
Australian Aid
THE WORLD BANK
GFDRR
BNPB
InaSAFE Supporters
Help
About
Print ...
Run
Coordinate:
11167120,-111771
Scale
1:94,616
Render
EPSG:3857


QGIS 2.4.0-Chugiak - Jakarta_floods
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
InaSAFE 2.1.0 final
Show question form
InaSAFE
Analysis Results
In the event of jakarta flood 2007 how many people might need evacuation
People in 1.0 m of water 1,112,000*
* Number is rounded to the nearest 1000
Map shows population density needing evacuation
Table below shows the weekly minimum needs for all evacuated people
Needs per week Total
Rice [kg] 3,113,600
Drinking Water [l] 19,460,000
Clean Water [l] 116,760,000
Australian Aid
THE WORLD BANK
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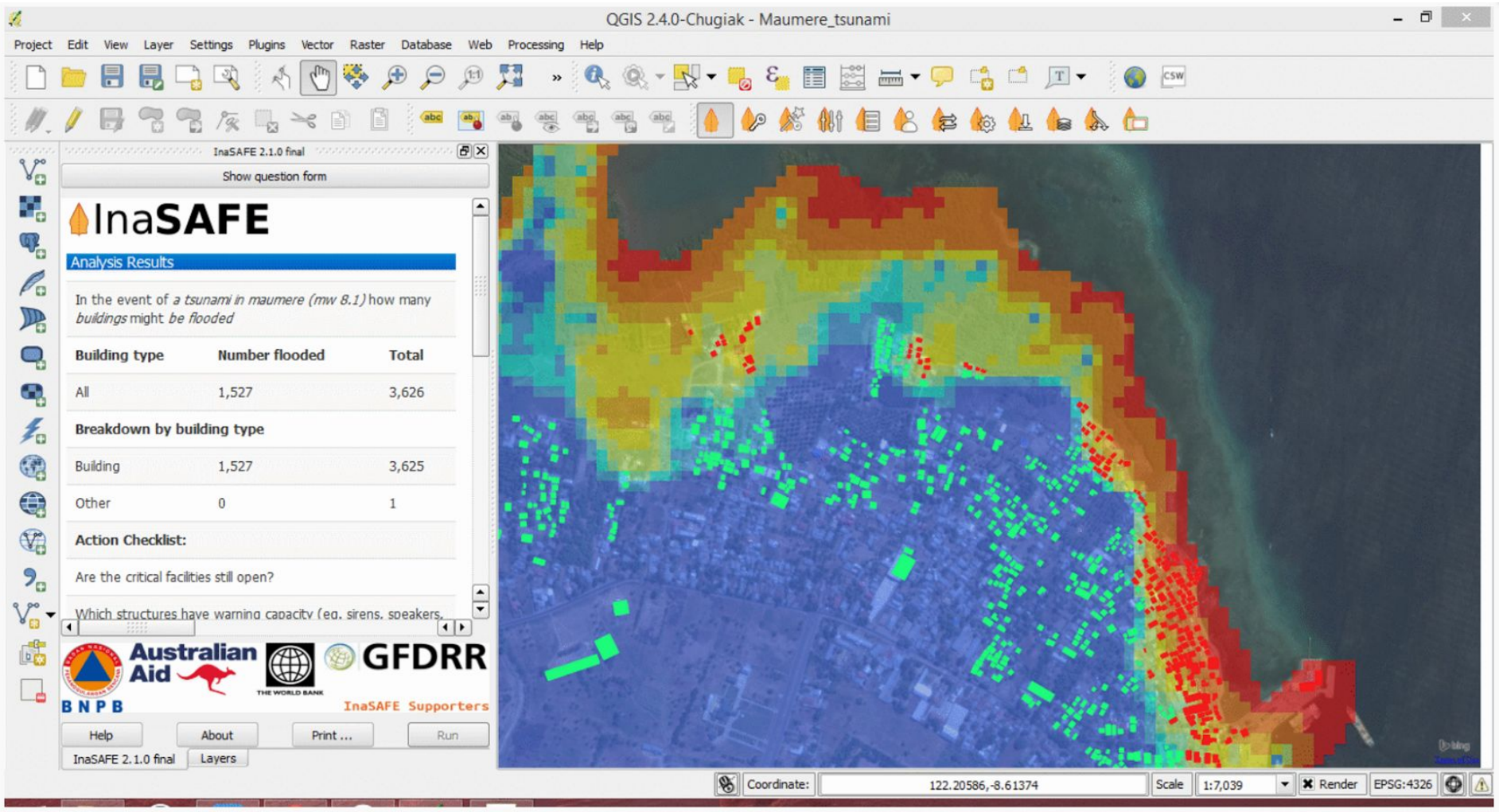
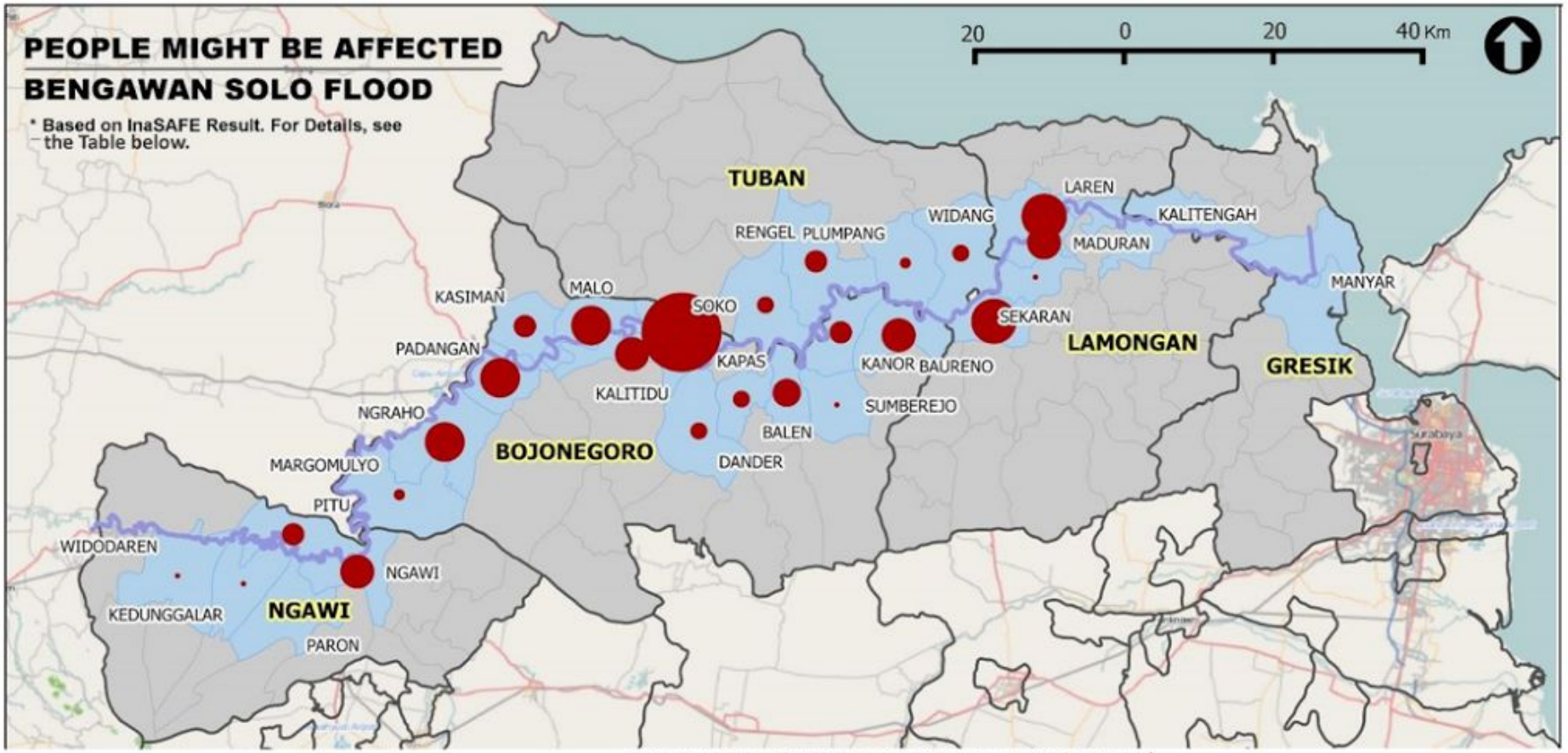
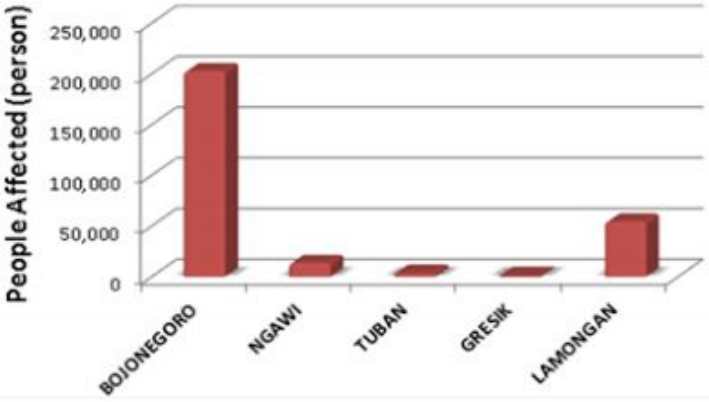
InaSAFE Supporters
Help About Print ... Run
InaSAFE 2.1.0 final Layers
1 legend entries removed.
Jakarta
Bekasi
Coordinate: 11873800,-706575 Scale 1:227,256 Render EPSG:3857


QGIS 2.4.0-Chugiak - Maumere_tsunami
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
InaSAFE 2.1.0 final
Show question form
InaSAFE
Analysis Results
In the event of a tsunami in maumere (mw 8.1) how many buildings might be flooded
Building type
Number flooded
Total
All
1,527
3,626
Breakdown by building type
Building
1,527
3,625
Other
0
1
Action Checklist:
Are the critical facilities still open?
Which structures have warning capacity (eg. sirens, speakers,
Australian Aid
GFDRR
BNPB
InaSAFE Supporters
Help
About
Print ...
Run
InaSAFE 2.1.0 final
Layers
Coordinate:
122.20586,-8.61374
Scale
1:7,039
Render
EPSG:4326

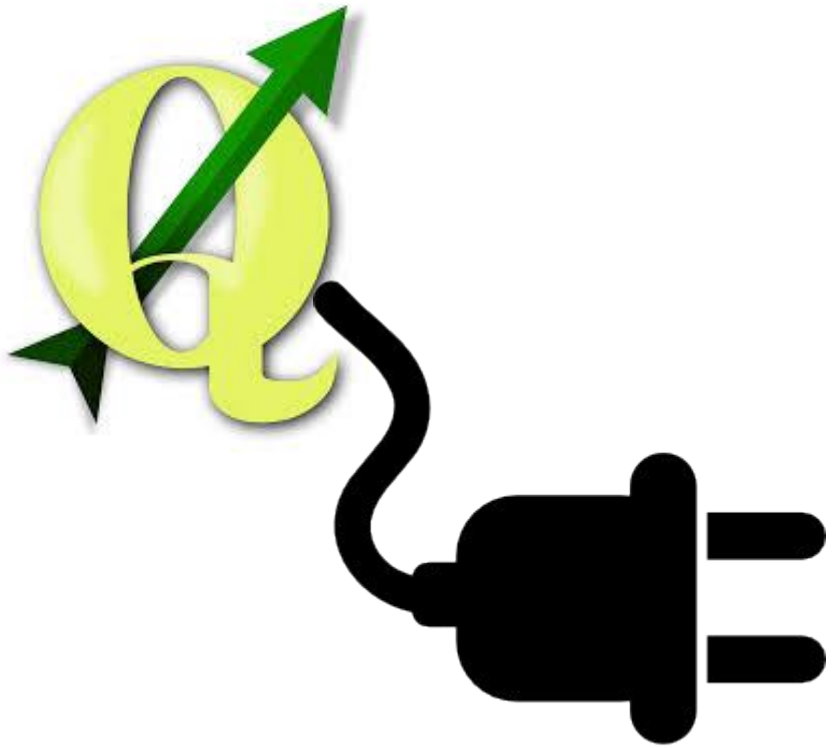




PEOPLE MIGHT BE AFFECTED BY BENGAWAN SOLO FLOOD *
*** Based on analysis using InaSAFE**

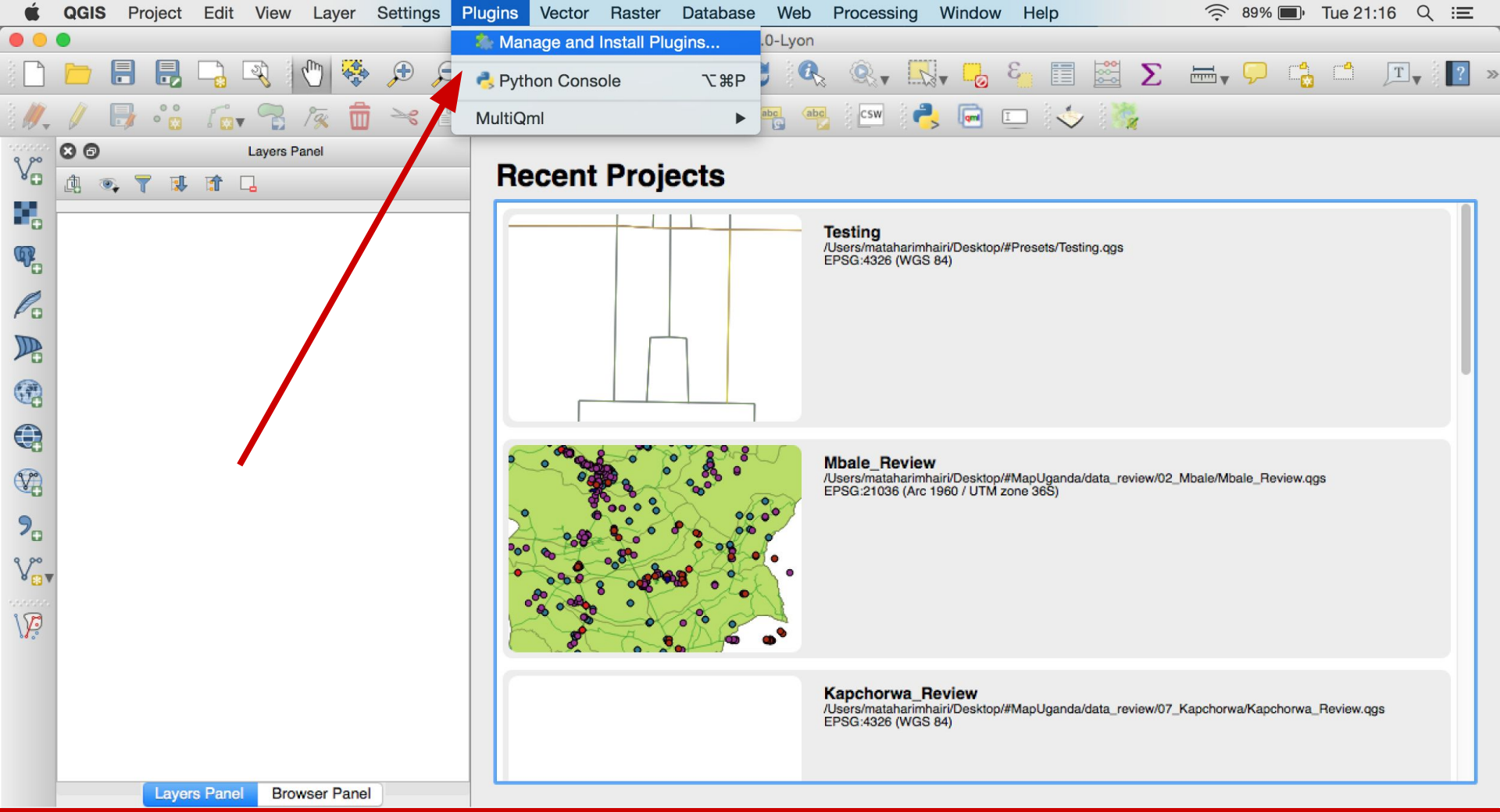
District	People Might be Afected	People Need Evacuation **	Population By Age			Female Population ***
			Youth	Adult	Elderly	
Bojonegoro	202,821	2,000	53,342	133,659	15,802	101,411
Ngawi	13,701	130	3,603	9,029	1,069	6,851
Tuban	3,669	30	965	2,418	286	1,835
Gresik	803	8	211	529	63	393
Lamongan	54,540	540	14,344	35,942	4,254	27,270
TOTAL	**275,534**	**2,708**	**72,465**	**181,577**	**21,474**	**137,760**

** Population threshold of people need evacuation : 1% of the people might be affected
*** Estimated based on sex ratio (male—female ratio) of the district

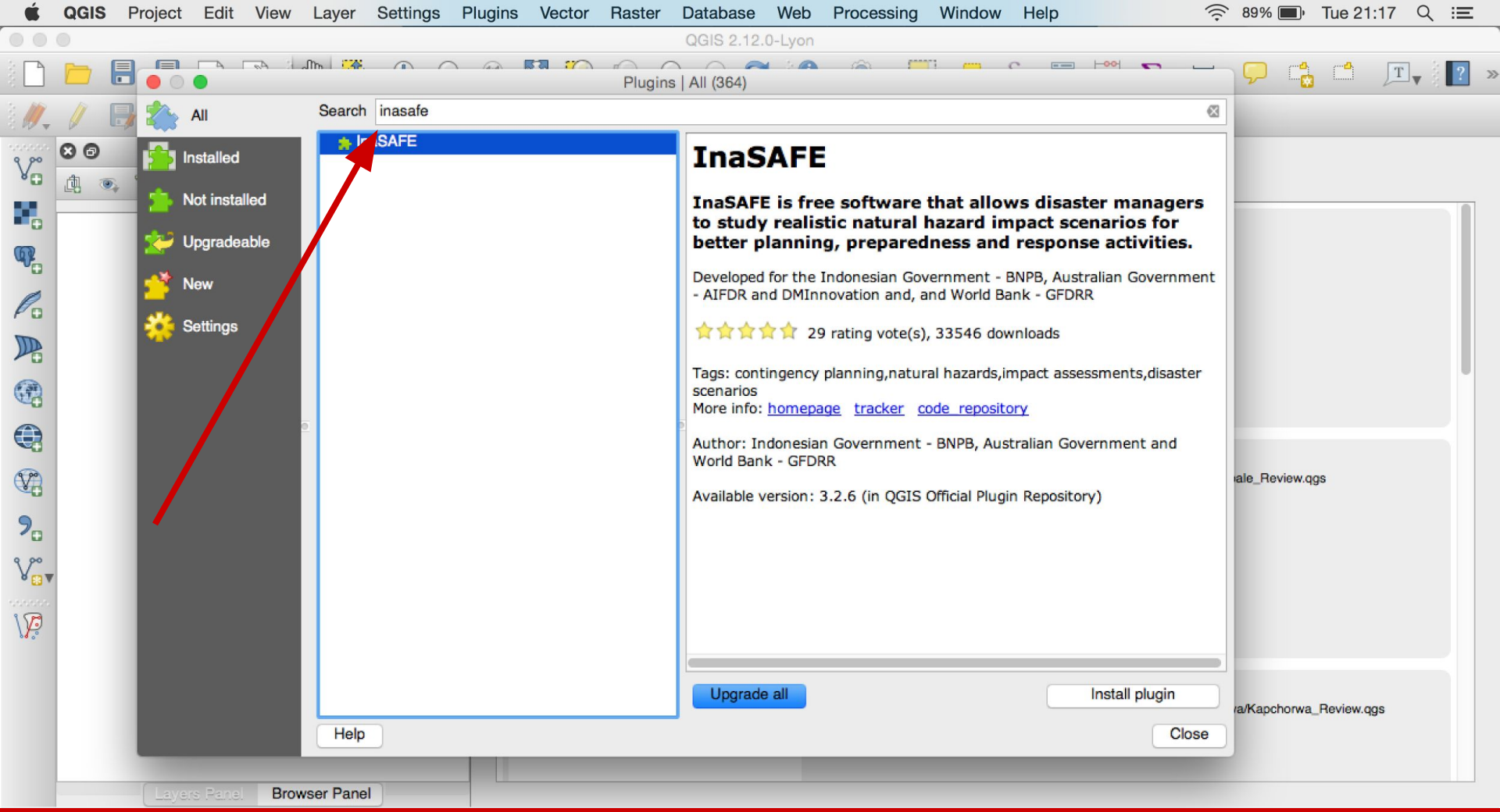


InaSAFE Installation

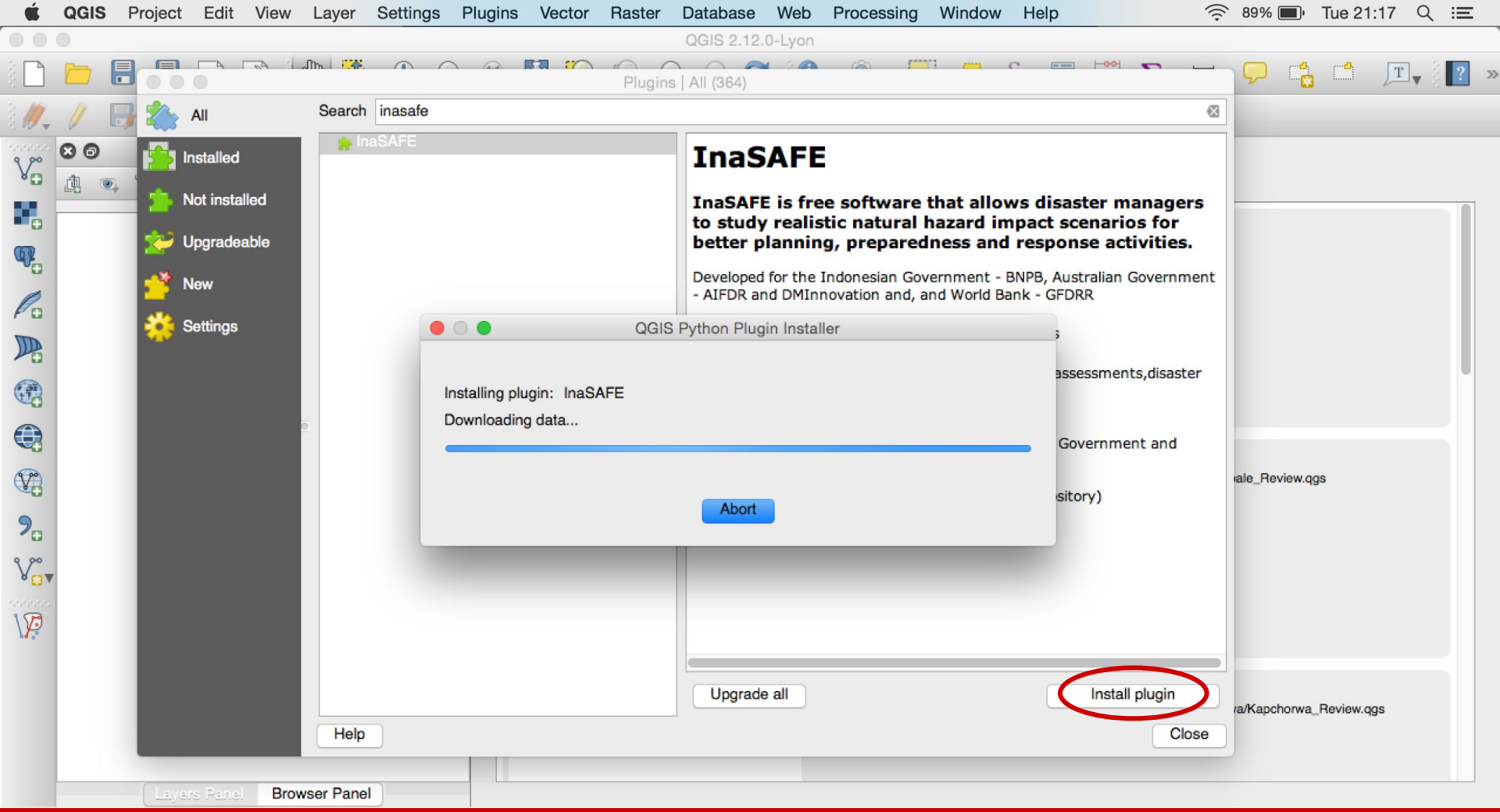
QGIS Plugin



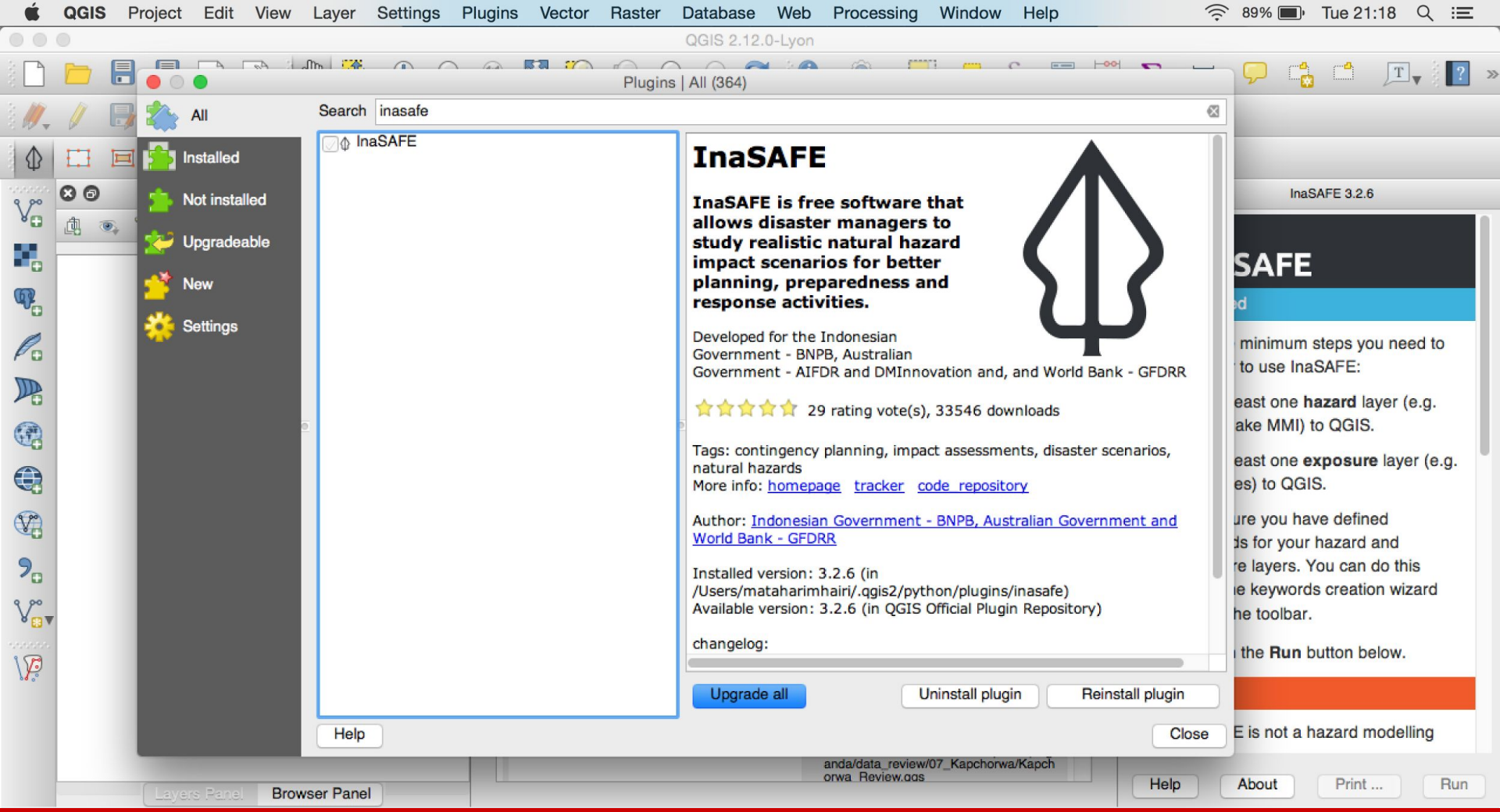
Click ‘Plugins’ from toolbar
Scroll down + select ‘Manage and Install Plugins’



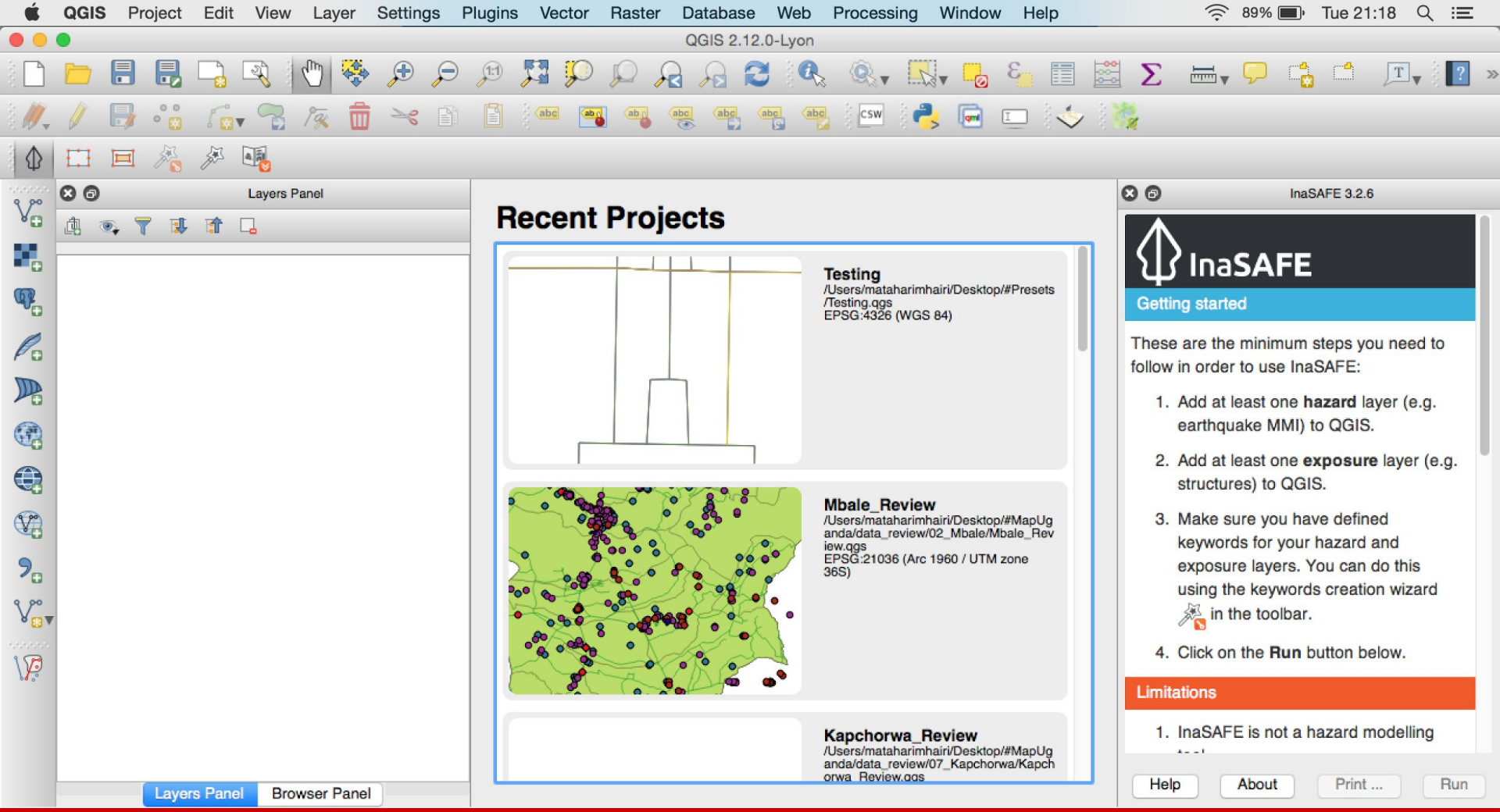
Type ‘inasafe’ in the Search box
+ the plugin should appear below



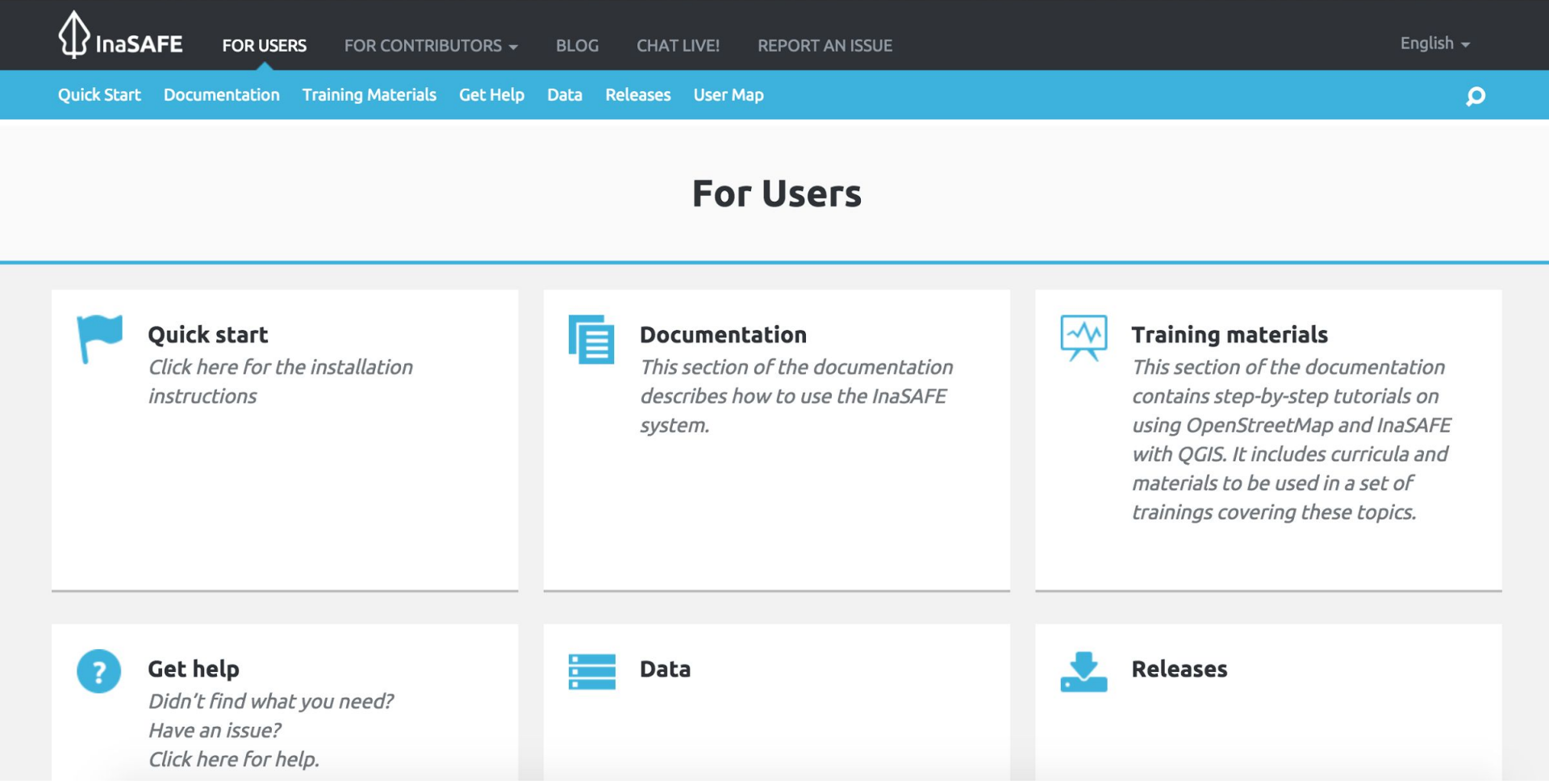
Click ‘Install plugin’
A download window will appear



The following text will appear in the Plugins window once installed



There will now be an InaSafe icon on the toolbar + a window in QGIS



Documenation For Users

http://inasafe.org/for-users/

Table Of Contents

Run Basic InaSAFE

Introduction

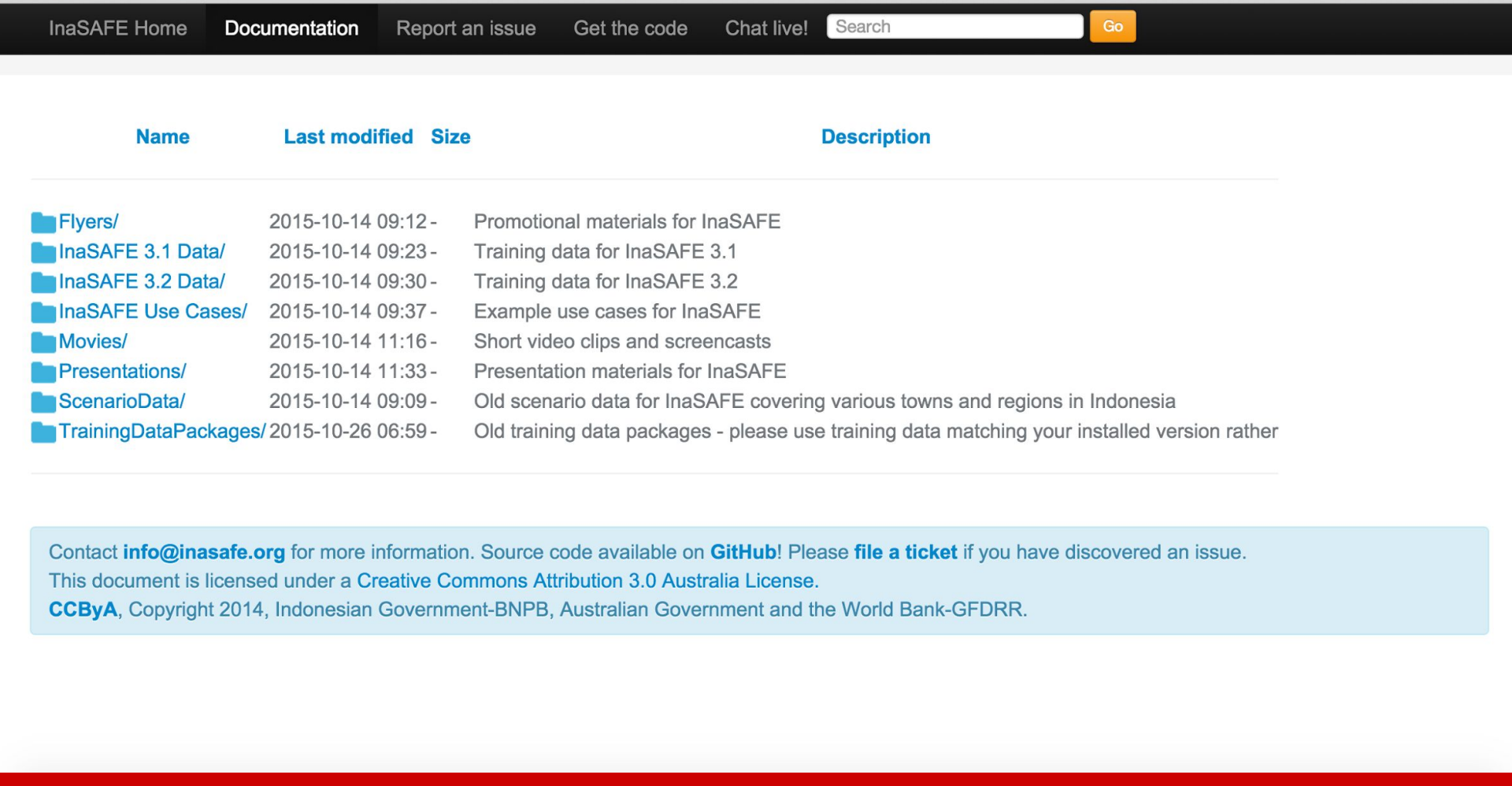
In this exercise we will work through an example scenario where we show how the different data elements used by InaSAFE are combined in order to analyse the potential impact of a flood in Jakarta on both the buildings and the population.

After we have run the InaSAFE analysis we will print the map and analysis report as pdf and review the results. We will also learn how to change the flood threshold and take a look at the default settings for minimum needs. We will also learn how to save our work.

Learning objective

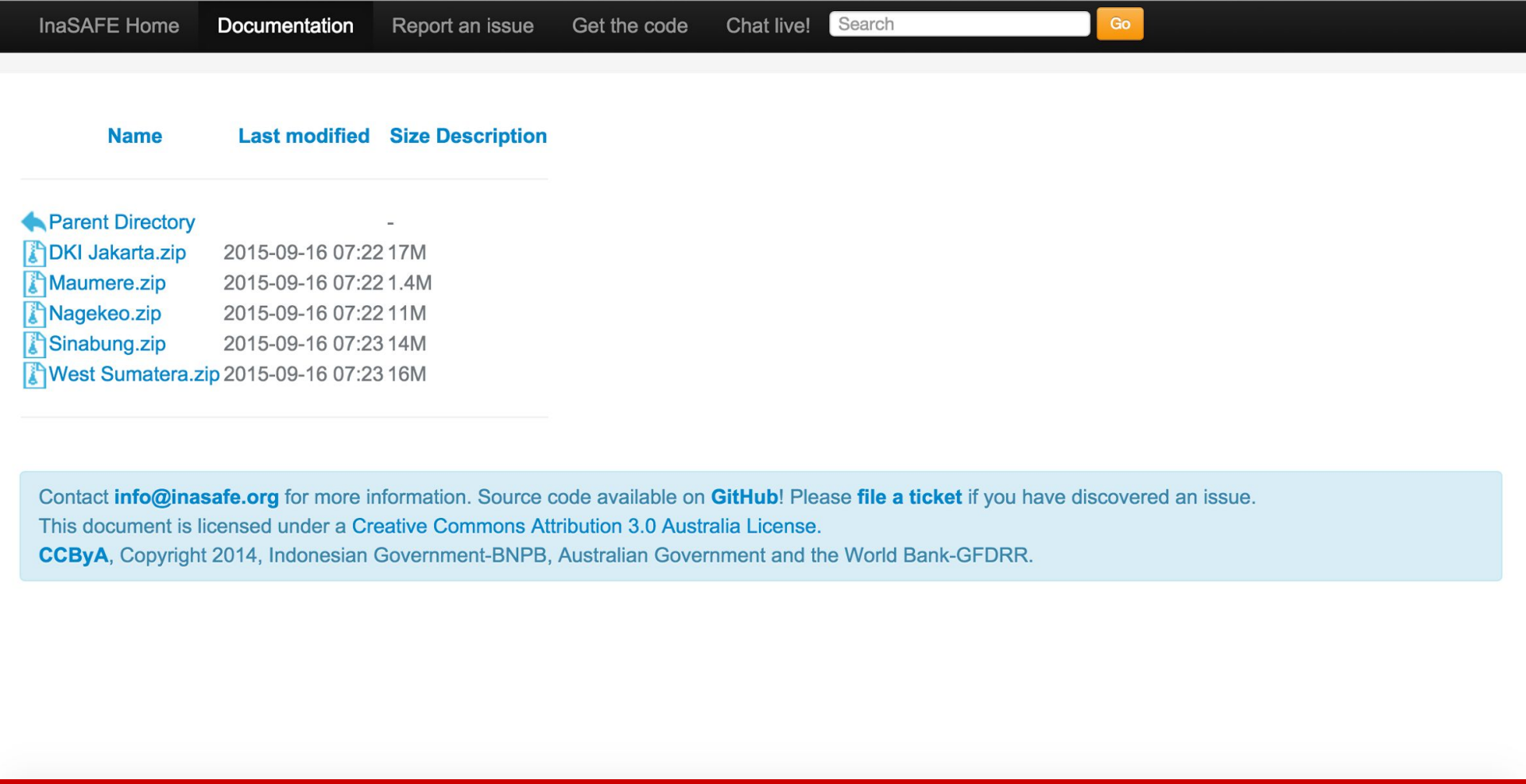
Run Basic InaSAFE

http://docs.inasafe.org/en/training/socialisation/run_basic_inasafe.html



Download Training Data

http://data.inasafe.org/



InaSAFE 3.2 Data/

http://data.inasafe.org/InaSAFE%203.2%20Data/