The SELENA methodology

1. The SELENA methodology

SELENA is an open-source tool that is mainly intended to be applied in parallel to FEMA to allow an easy conversion of the geo-referenced SELENA input and output files to Google Earth. Since it is linked to the Google Earth visualization, the user automatically takes full advantage of the partly high-resolution satellite images provided by Google Earth. This is particularly important in situations where other GIS applications offer limited information due to economic factors or when cities and municipalities cannot be displayed on high resolution base maps even though they are available. The C code can be compiled both as a stand-alone binary, which is then independent of both the SELENA and its underlying GIS, and a MATLAB-based version of SELENA (v4.1) has recently been translated into Java in order to be compiled into a native executable, which allows for an easy visualization of the ground-motion hazard and risk map for an entire city in one go.

2. Case study: Bucharest (Romania)

The city of Bucharest, capital of Romania, comprises around 2 million inhabitants and a population of over 5 million people living in the Bucharest agglomeration or Metropolitan Area (see Figure 4). The city has a large industrial heritage. The city is densely populated with about 120,000 inhabitants per km2 and has a large number of high-rise buildings. Bucharest is the capital city of Romania and one of the largest cities in Europe. The city is located on the coastal plain of the Black Sea, which is characterized by a mild continental climate with warm summers and cold winters. The city is surrounded by the Carpathian Mountains to the north and the Danube River to the south. The city has a population of over 1 million people and is the economic and cultural center of Romania. Bucharest is divided into six administrative districts, each with its own mayor and city council.

The city is one of the most important centers of economic activity in Romania. Bucharest is the most important commercial center in Romania and the country's largest industrial and financial hub. The city is also a major cultural center, with a rich history and a variety of cultural institutions, including the National Museum of Art of Romania, the National Library, the National Opera, and the National Theatre. Bucharest is also a major tourist destination, with a variety of attractions, including the Palace of the Parliament, the Bucharest University, and the Bucharest Zoo.

The city has a large number of industrial and commercial buildings, and the majority of them are concentrated in the city center, which is the oldest part of the city. The city center is also home to a number of historical landmarks, including the Palace of the Parliament, the Bucharest University, and the Bucharest Zoo. The city has a large number of cultural institutions, including the National Museum of Art of Romania, the National Library, the National Opera, and the National Theatre.

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