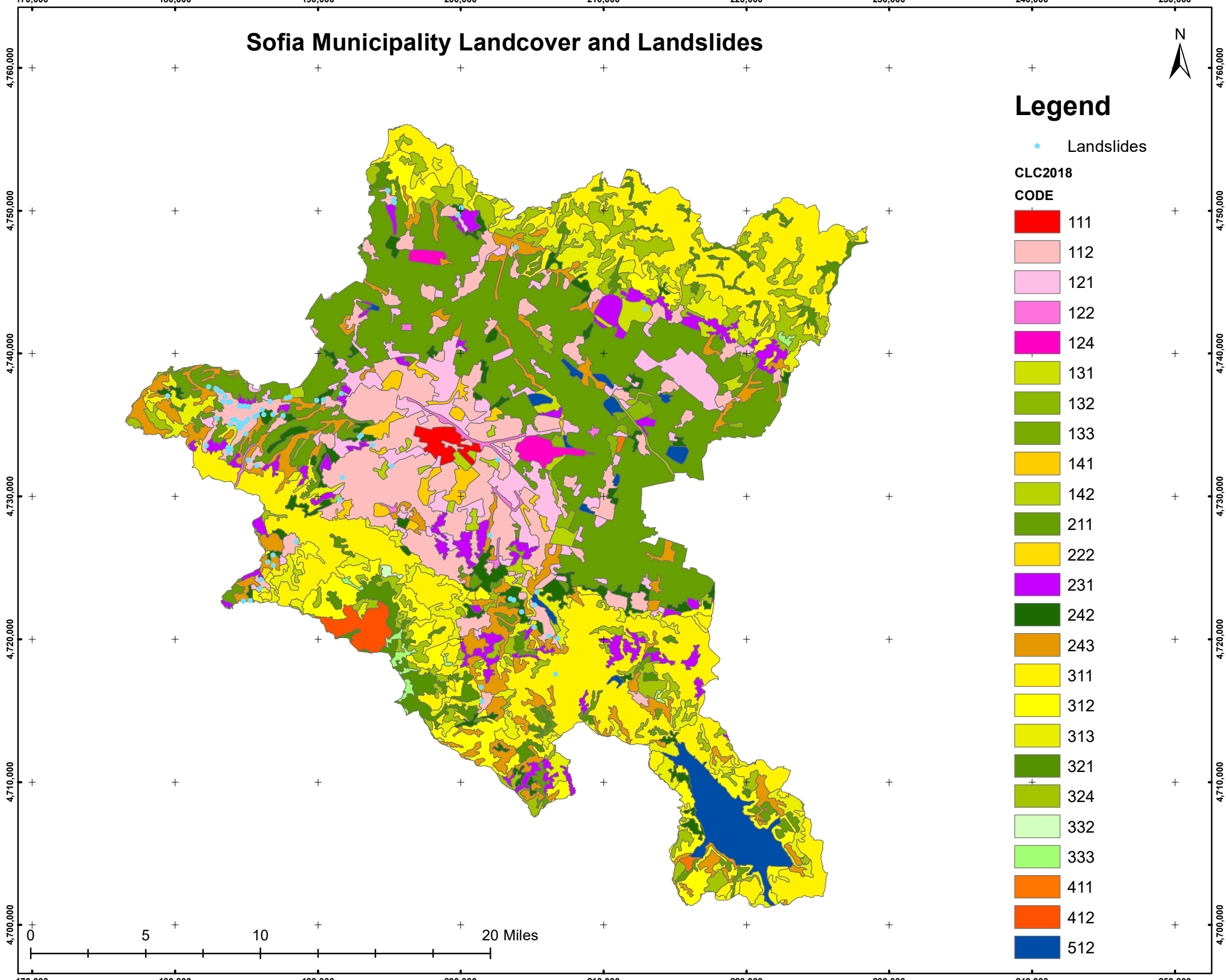


The development of the modern civilization during the last two centuries has enormously increased the intensity of human-nature interactions leading to ever-growing anthropogenisation of the landscape both as planned and as side effect. The urbanization – the process of creating cities and urbanizing territories may be regarded as specific part of this overall process of anthropogenisation. Initially, the best places of the landscape have been chosen for building towns and cities, but in time as the urban sprawl appeared and grew faster, especially nowadays, the different parts of the city or town, usually suburbs, may reach zones of risks caused by natural phenomena or processes. Today, in our crowded and strongly urbanized world this is a common situation in the big cities. Sofia is an excellent example of a fast growing city, which has enlarged his territory one hundred times for the last 140 years. Modern Sofia covers approximately 240 sq. km in Sofia valley, starting from 2.5 sq. km in 1879. Considering the physical geography and relief of Sofia valley the growing process of city has inevitably lead to put the human infrastructure in dangerous proximity to the landslides and risky zones in the area, seventy-six of which has been registered during the last 20 years and very likely more landslides to be discovered.



The poster presents four maps depicting the landslides location, which may serve for analysis and risk assessment as well as for surveying the landslide processes in the region of Sofia. The most landslides are located at 550 – 650 m of altitude that corresponds to the most populated altitude of the urbanized area. In addition, most of the landslides are located on slopes from 6 to 17 degrees. The morphometric analysis of the relief for the Sofia municipally has been made using digital surface model with 5 m spatial resolution of the Euro-Maps 3D DSM products, provided within the ESA TPM project ID – 42966 for *Mapping and modelling of anthropogenic relief in relation with georisk* [1].

One of the analysis depicts the proximity of the landslides to human infrastructure. The chosen proximity distance is 100 m. The analysis clearly shows that three of the landslides exists at less than 100 m from the railroad, 70 of them less than 100 m from roads and 20 are located less than 100 m from buildings.

The landslides have occurred mainly on the following land cover types according CORINE land cover for 2018: 112 - Discontinuous urban fabric, 242 - Complex cultivation patterns 243 - Land principally occupied by agriculture, with significant areas of natural vegetation, as well as 313 - Mixed forest, 131 – Mineral extraction sites, 141 – Green urban areas, 142 – Sport and leisure activities, 211 – Non-irrigated arable land, 311 – Broad-leaved forest, 321 – Natural grassland.

Reference:

[1]. ESA TPM project ID – 42966 “*Mapping and modelling of anthropogenic relief in relation with georisk*” with PI- Vanya Stamenova and Co-I – Stefan Stamenov

