Progression of the Syrian Conflict and its Effect on Civilians

Introduction

Since the Arab Spring instigated a rebel uprising against President Bashar al'Assad in 2011, Syria has faced ongoing conflict. For over two years, rebel forces have been in armed conflict with the Syrian Army, as both sides attempt to gain control over strategic locations within the country. The complexity of interactions between government forces, the Free Syrian Army, Kurdish groups, Islamist militias, Turkish forces, pro-government Alawite militias, and more recently jihadist groups has contributed to tensions.

The purpose of this analysis was to illustrate the violence in Syria across both space and time. It further seeks to evaluate the distribution and the severity of civilian involvement.
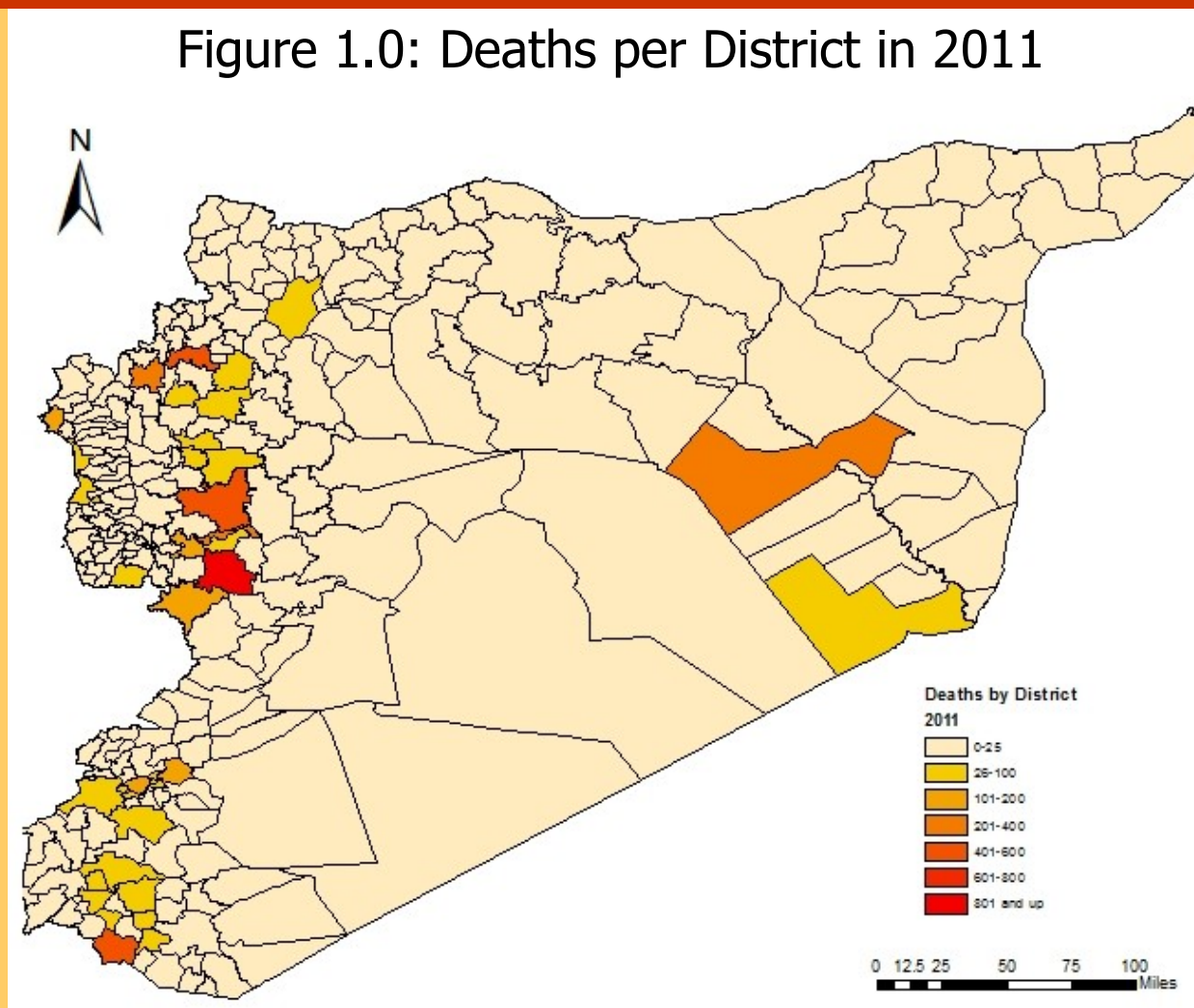
Methods

Due to the inaccessibility of conflict zones, the majority of the data used relied on the compilation of news reports by organizations like Syria Tracker, Women Under Siege, and the New York Times.

The principal data sources for this analysis were shapefiles provided by Syria Tracker, which contain data on times, locations and descriptions of death incidents. These were used to estimate the locations of high death densities by converting point data to raster buffers (Figures 2.0 and 4.0). The number of deaths per administrative district (Figures 1.0 and 3.0) were estimated by summing the death incidents in each year, and joining this dataset with the administrative shapefile to create choropleth maps. Figure 8.0 combines this with 2013 data to show the total deaths by district to date.
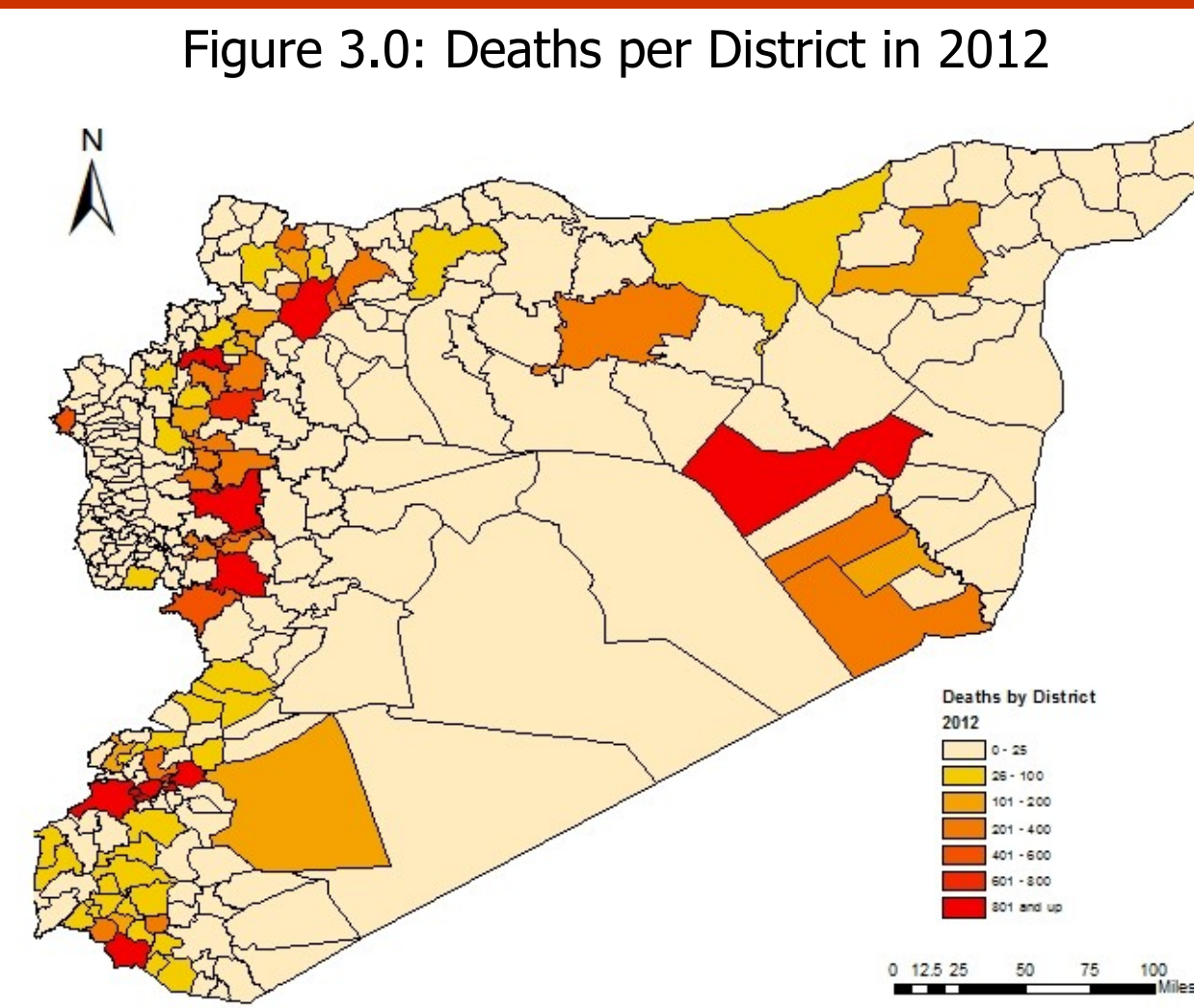
Figures 5.0 and 6.0 were adapted from a map in the New York Times using digitization and georeferencing. This map was combined with Syria Tracker data in order to demonstrate the density and distribution of deaths incidents.

Effects on the civilian population, as shown in Figure 7.0, combines sexual violence reports from the Women Under Siege Project with Syria Tracker data. Locations of sexual violence were coded into GIS use X Y coordinates. These points were overlaid on a choropleth map showing the proportion of civilian deaths to total deaths in order to illustrate the conflict's effect on civilians.
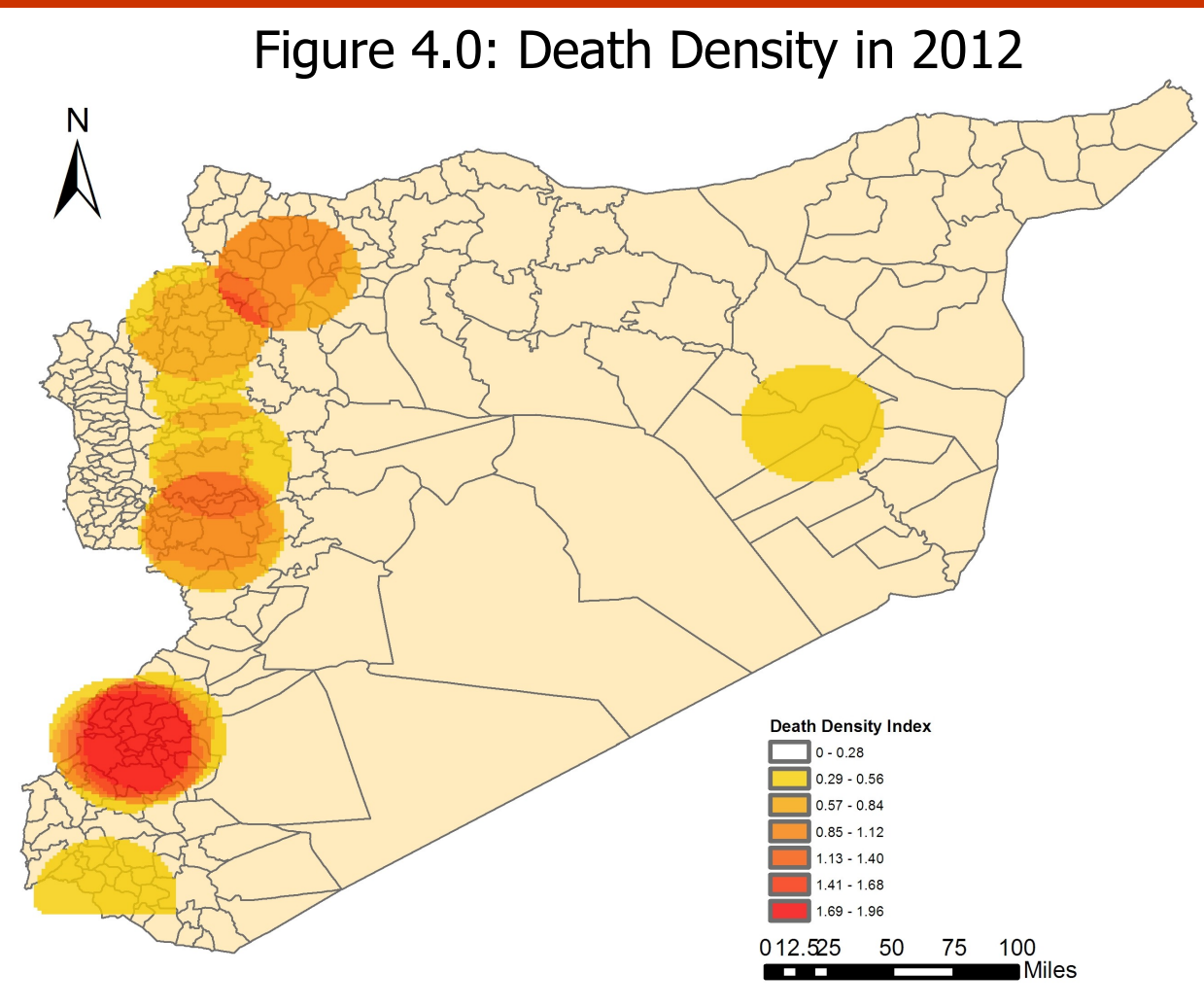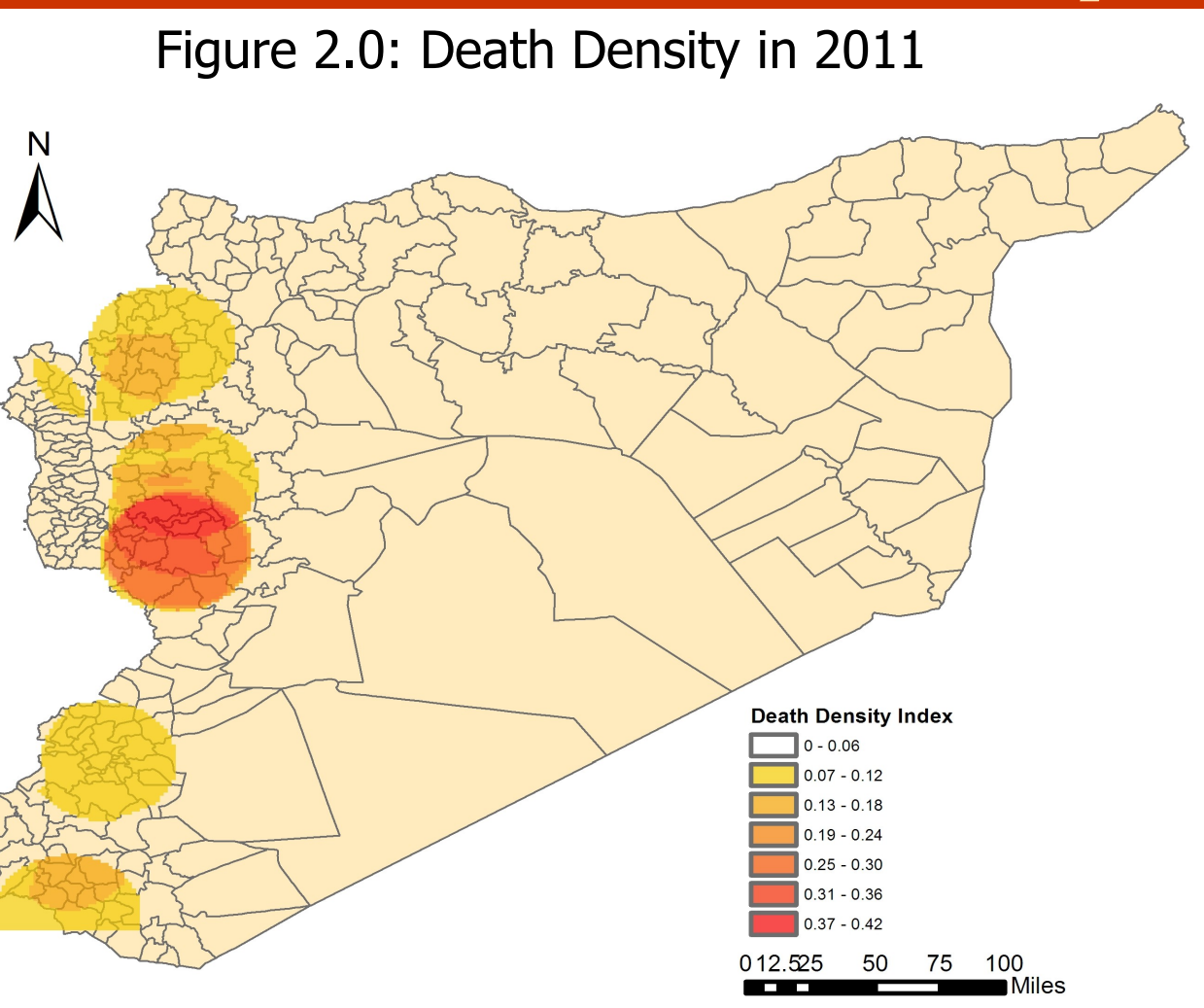
2011

Number of Deaths per District

Figure 1.0: Deaths per District in 2011

Density Distribution of Deaths

Figure 2.0: Death Density in 2011

2012

Figure 3.0: Deaths per District in 2012

Figure 4.0: Death Density in 2012

2013

Figure 5.0: Areas of Control in 2013 and Death Locations in Relation to Kurdish Territory
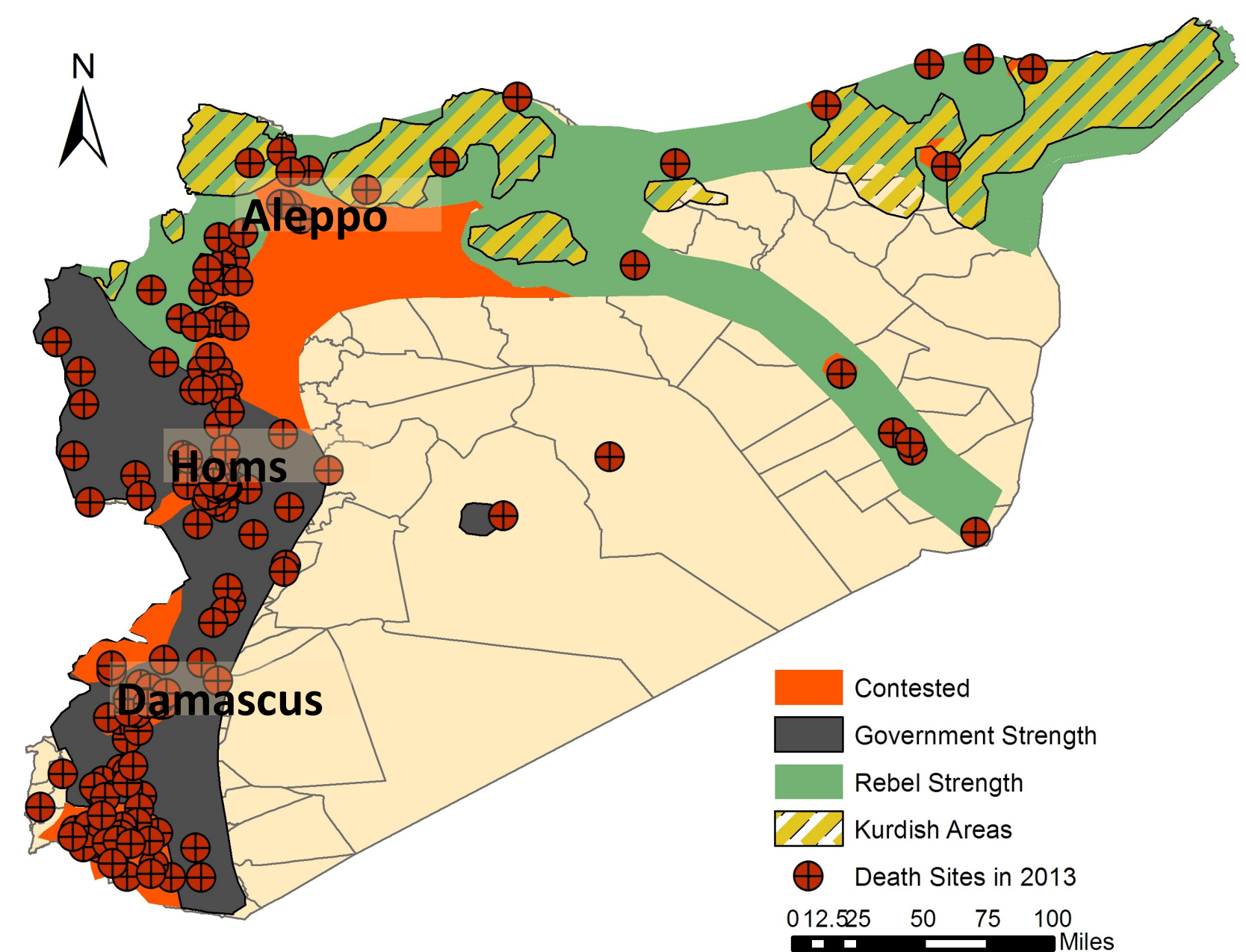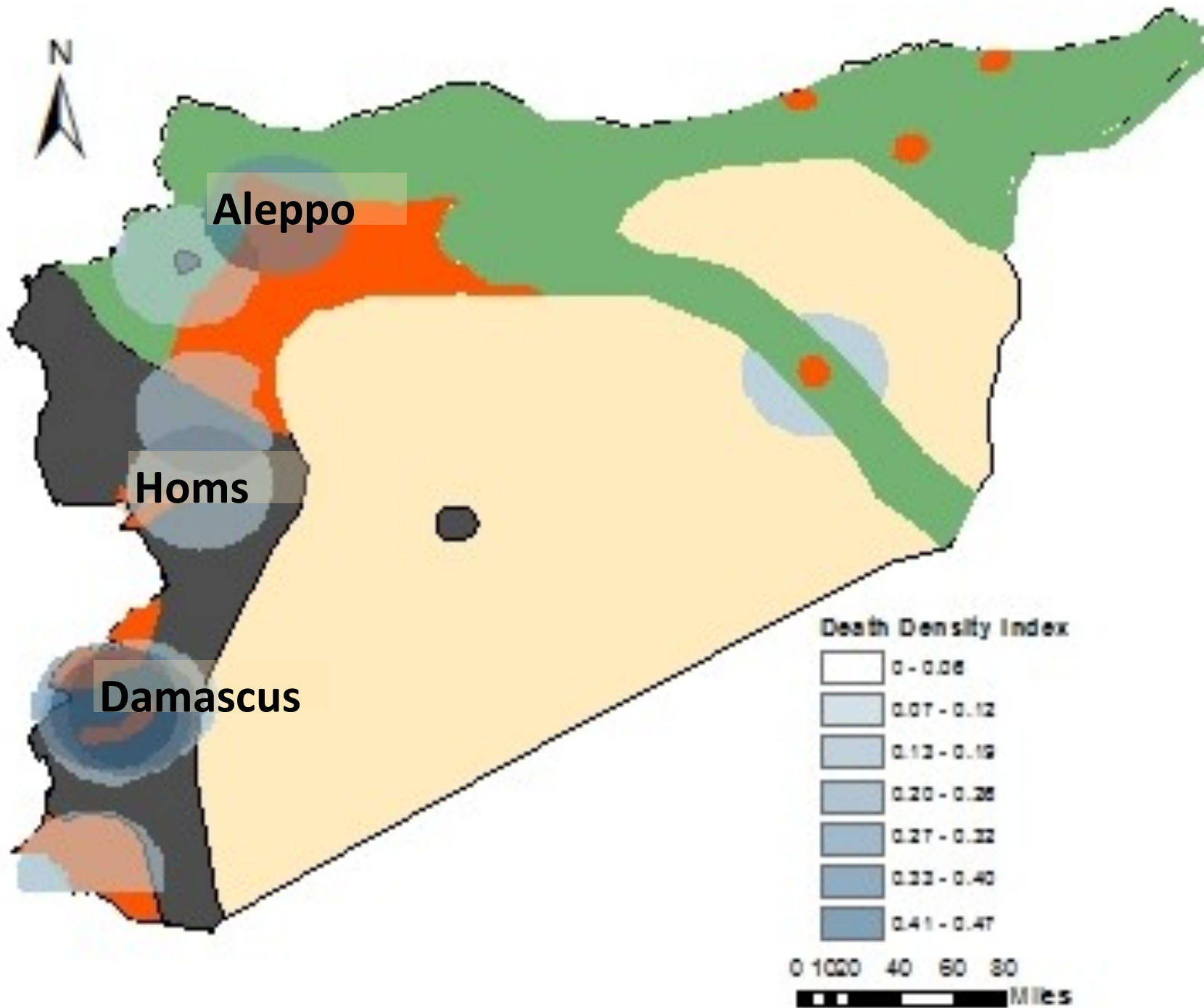

Figure 6.0: Areas of Control and Death Density Distribution in 2013

Total to Date

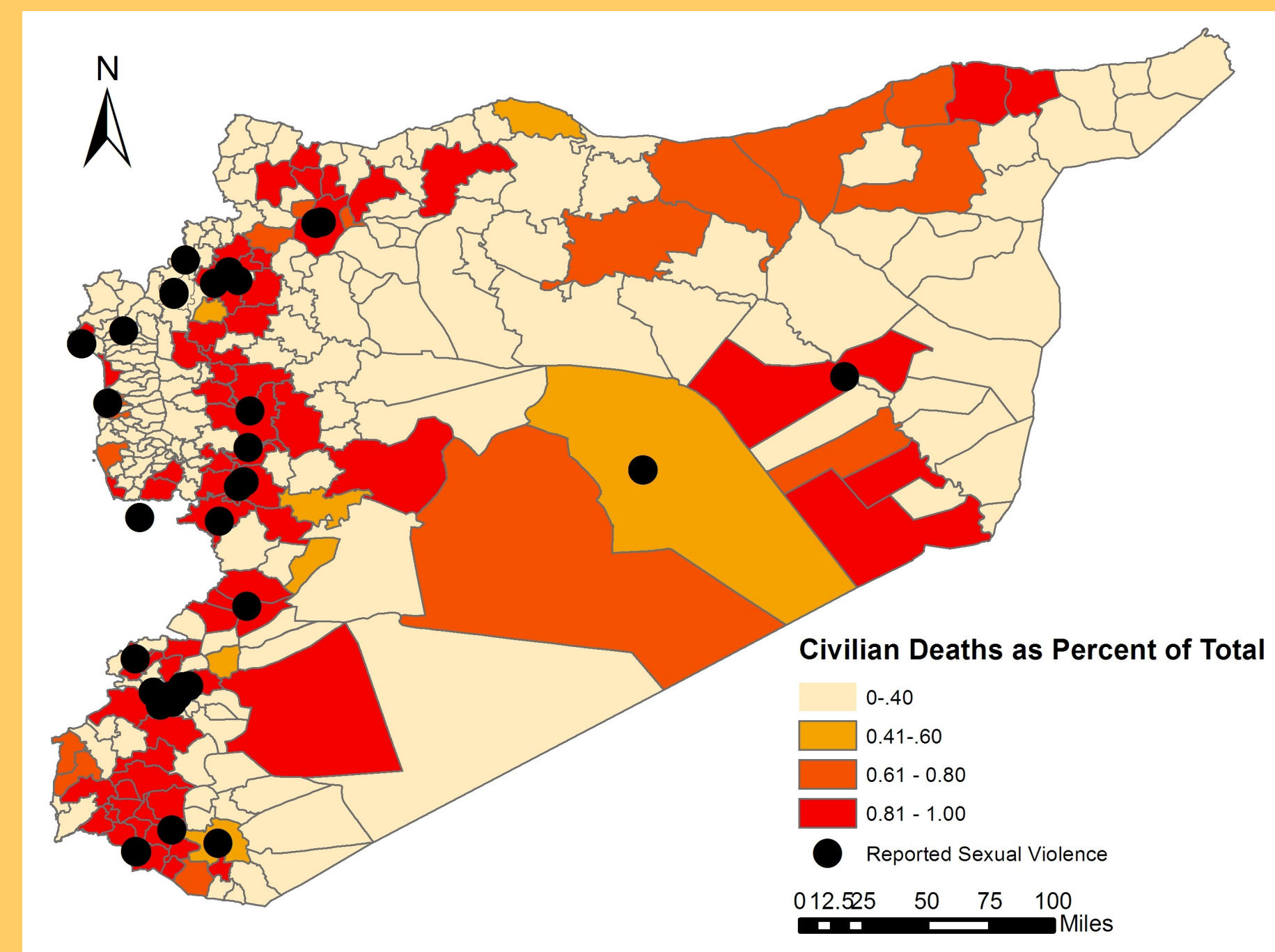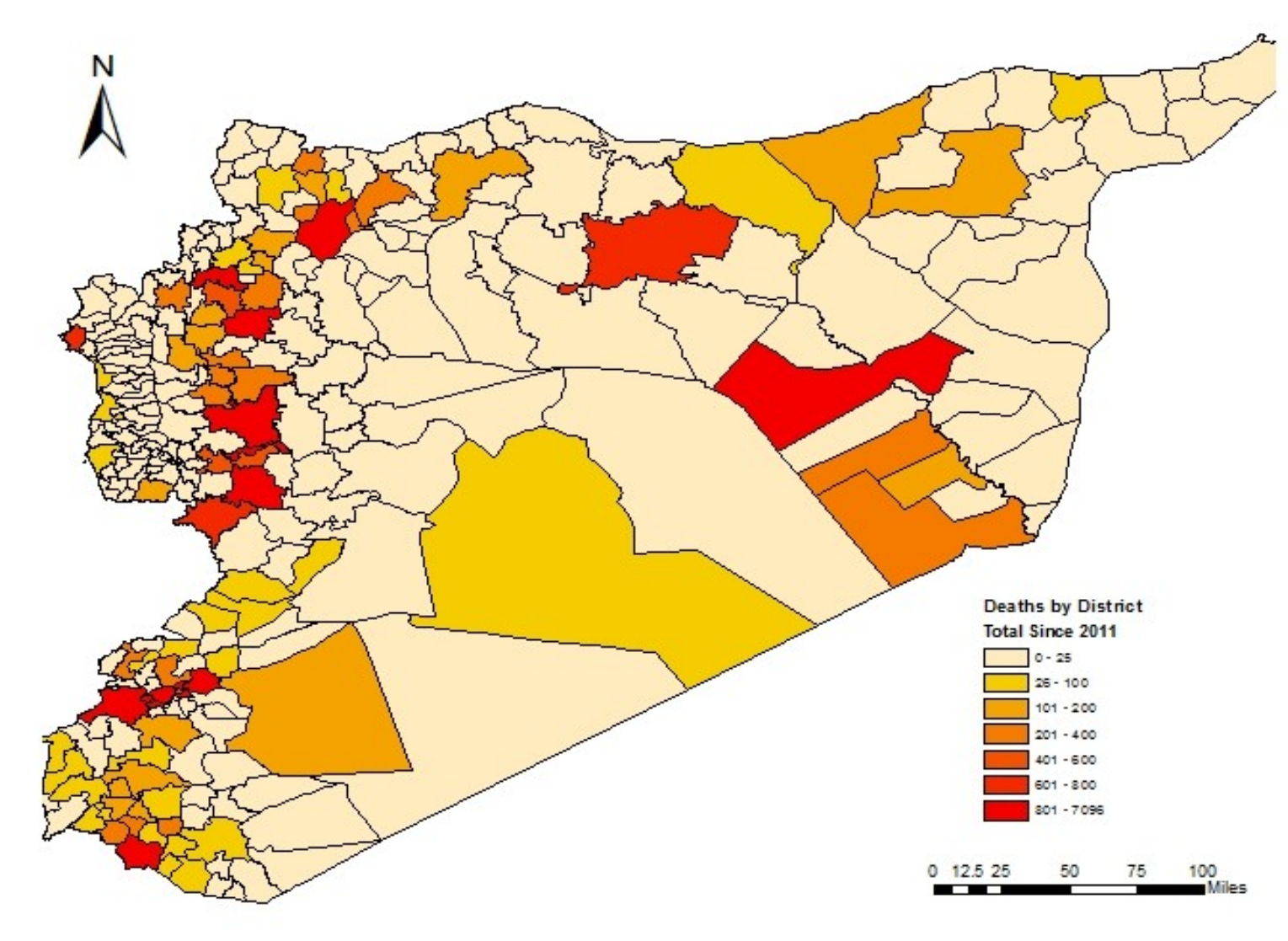**Figure 7.0: Civilian Deaths as Percent of Total and Reported Sexual Violence**

Figure 8.0: Total Deaths to Date by District

Conclusions

The conflict in Syria has inarguably escalated since its outbreak in 2011. The United Nations has estimated over 70,000 casualties since March 2011. The Syria Tracker source estimates 6,067 deaths in 2011, 41,903 in 2012, and 8,699 in 2013.

This analysis has demonstrated several patterns. Though a large proportion of the killings have occurred in the Homs district, the highest number have been in the Southern governorate of Rif Damashq. As expected, many of the main death sites are clustered around contested areas. Fighting has also spread to the northeast regions as Kurdish involvement and rebel forces have strengthened.

The conflict in Syria has had a disproportionately large effect on the civilian population. In many districts, the proportion of civilian deaths is over 80%. These same districts show a strong correlation with incidents of sexual violence.

Although the rate of increase in casualties has leveled off since 2012, it is clear that the violence is far from over. Although the climbing death toll has brought the conflict into news headlines, limited and inconsistent access to data challenge careful conflict analysis. Through mapping and documentation of violent acts, further analysis can hopefully help publicize the issue and improve the efforts of disaster relief for those in need.

References

1. "Documenting Sexualized Violence in Syria." *Women Under Siege.* https://womenundersiegesyria. crowdmap.com/.

2. "Syria Tracker." *Humanitarian Tracker.* https://syriatracker.crowdmap.com/.

3. Stack, Liam, and Sergio Pecanha. "Map of the Dispute in Syria." *The New York Times.* N.p., 12 Mar. 2013. Web. 24 Apr. 2013. <http://www.nytimes.com/interactive/2013/03/13/world/middleeast/a-snapshot-of-the-dispute-in-syria.html?_r=0>.