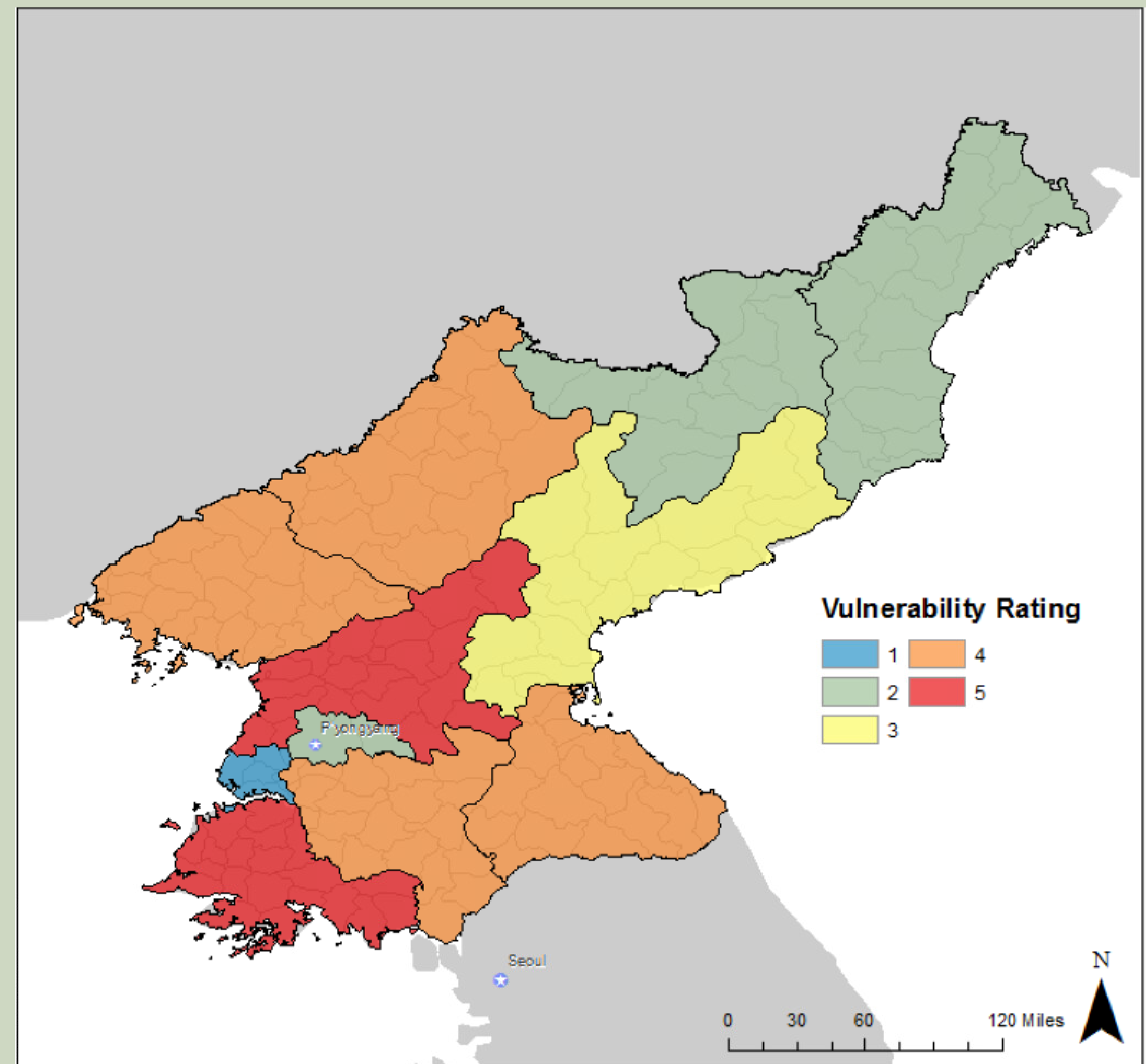
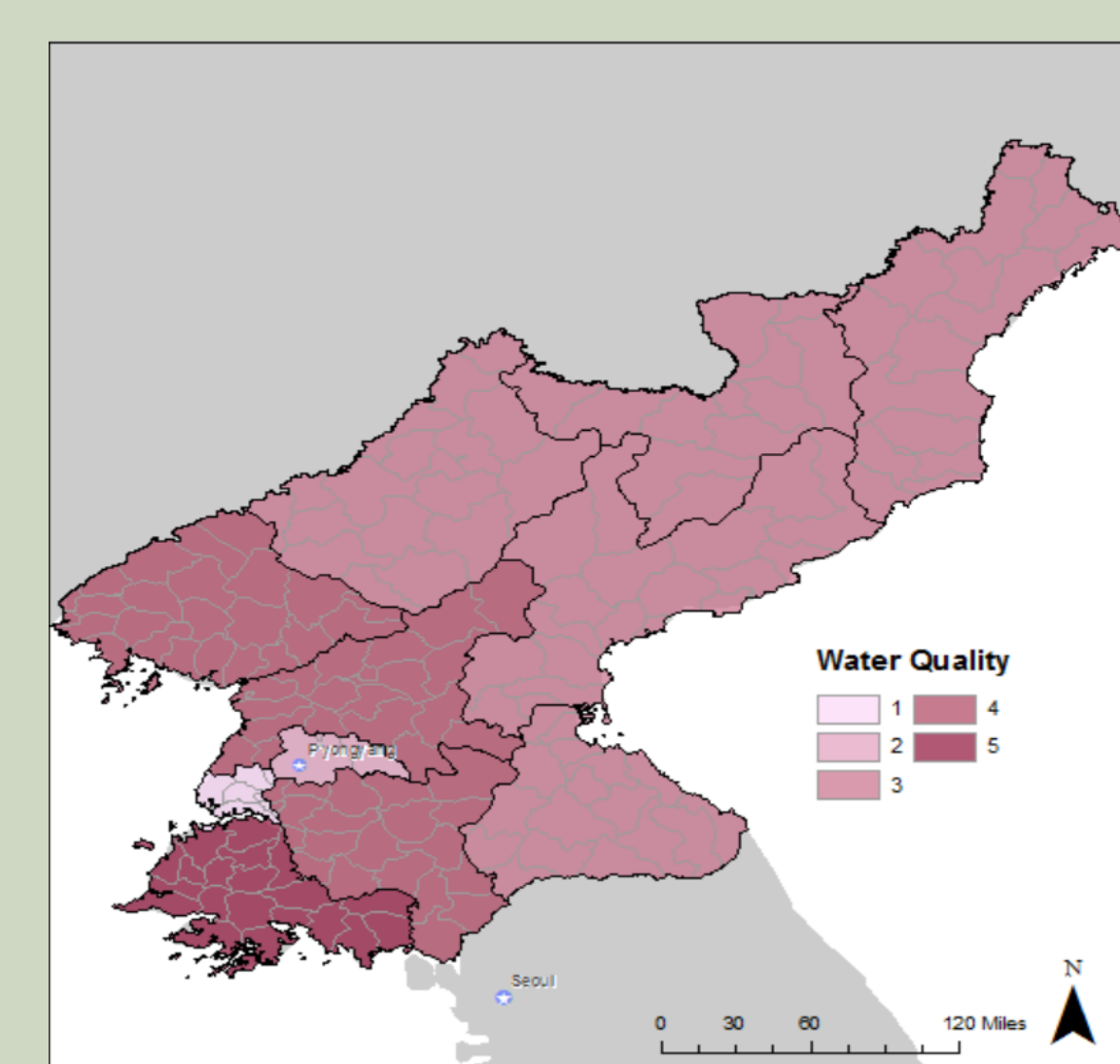
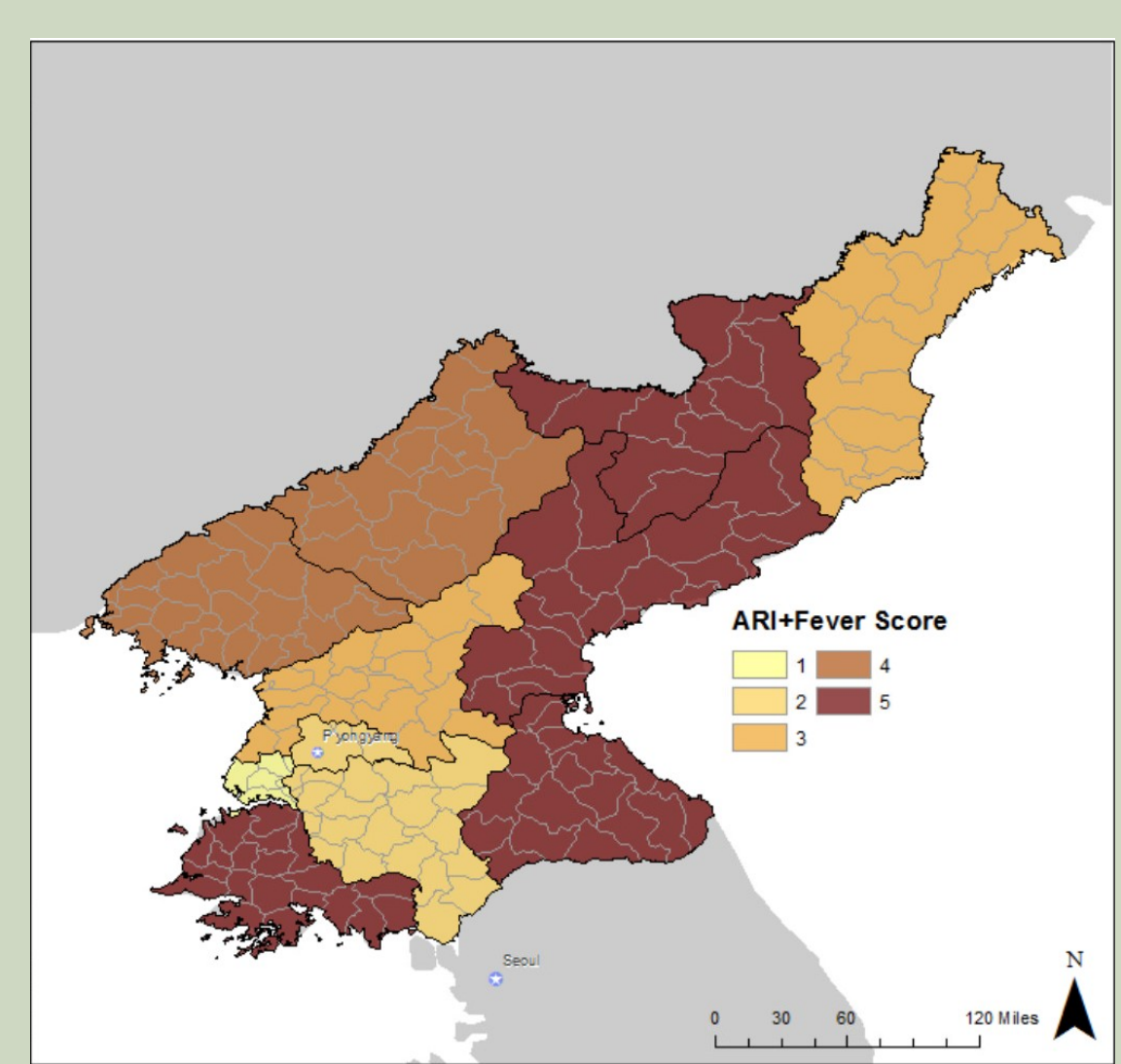
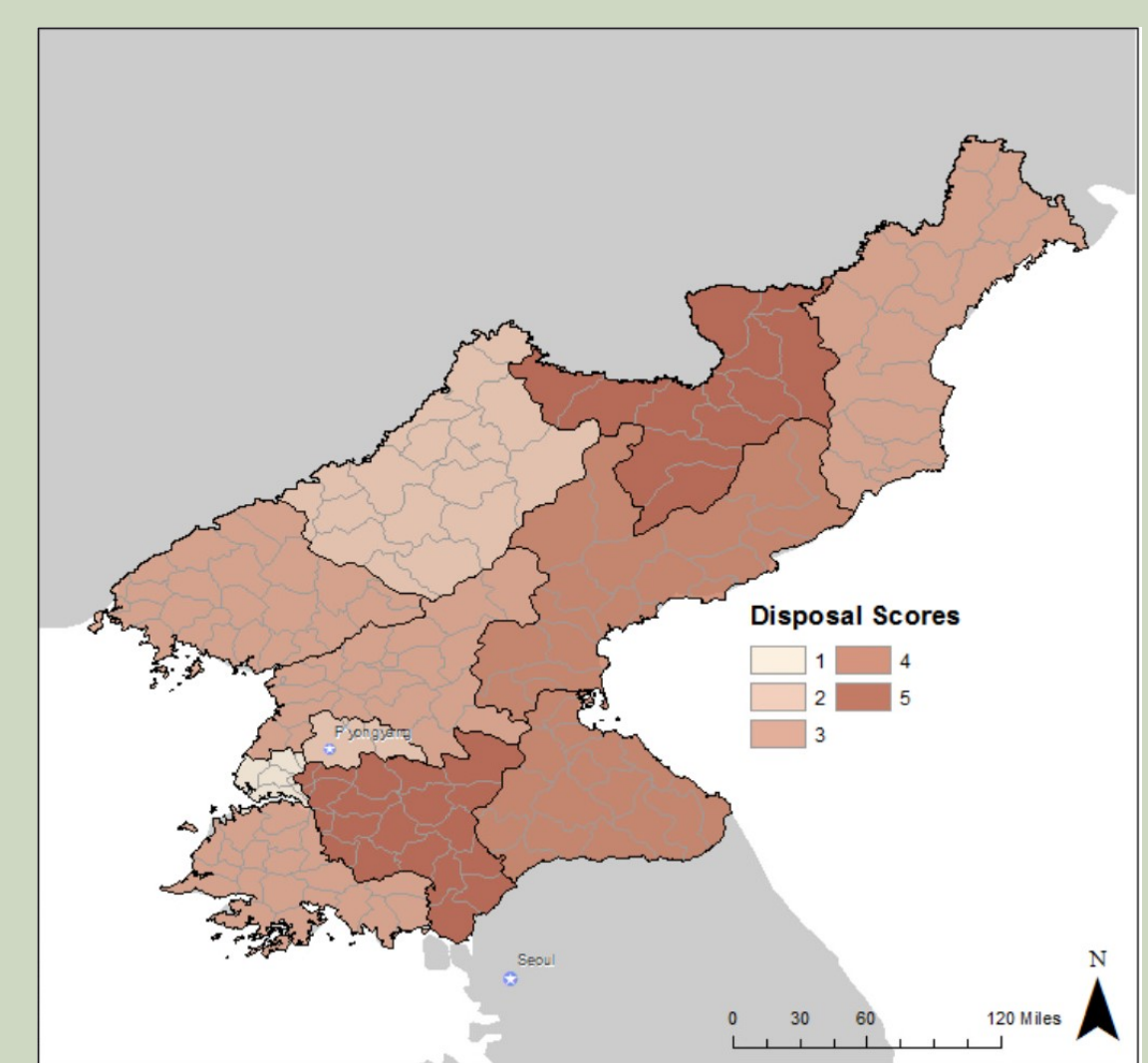
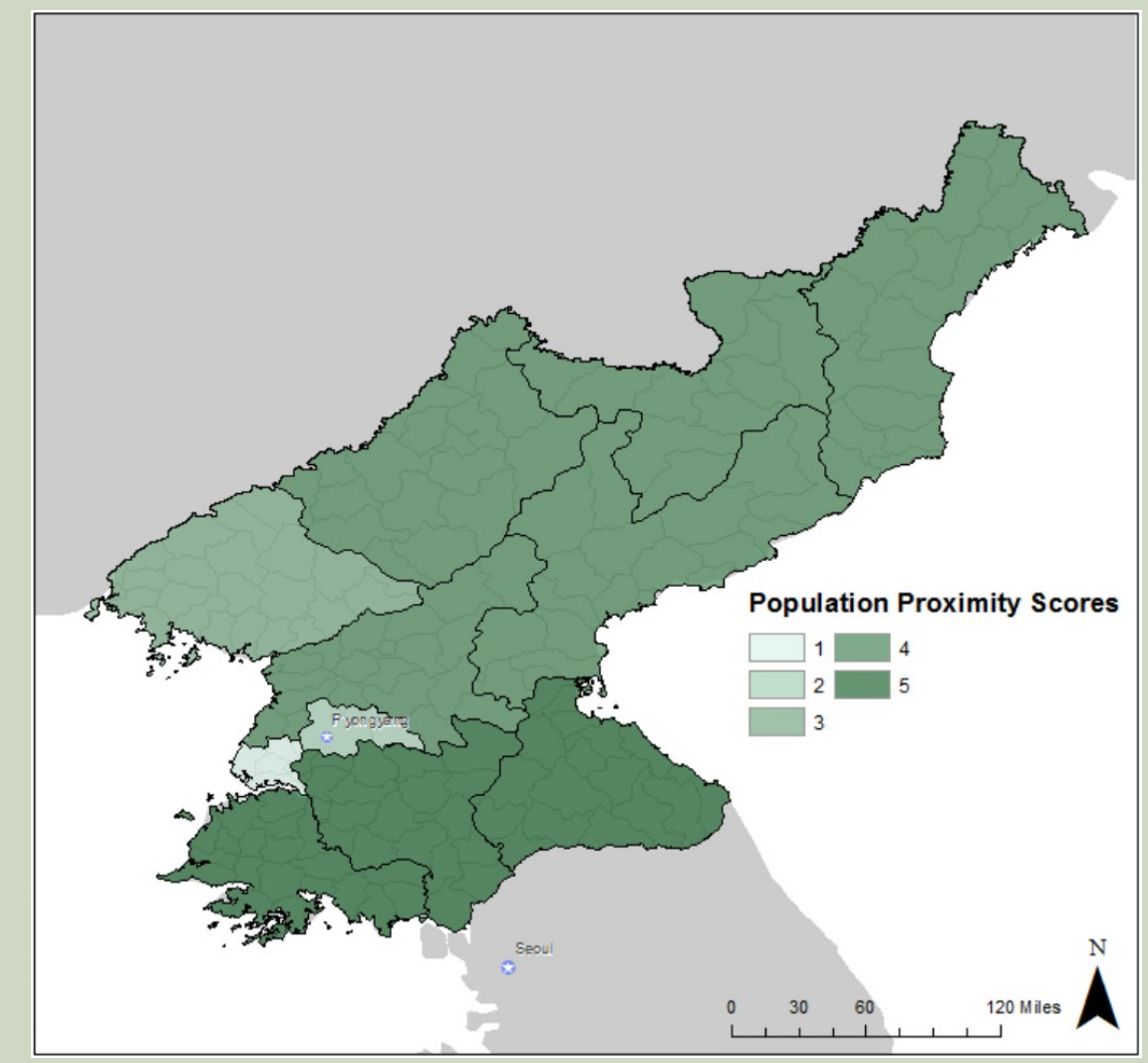


COVID-19 and North Korea

A Risk Analysis of DPRK Provinces

Background

COVID-19 has become the defining moment of 2020 with governments around the world scrambling to contain its spread and prevent further outbreaks. COVID-19 has already pushed Western healthcare facilities to the brink of collapse, North Korea possesses a fraction of those resources making its population especially vulnerable to the severe side-effects of the virus. North Korea receives significant humanitarian aid from the United Nations and other international organizations which makes it essential to identify the most vulnerability provinces. If properly identified, the UN and other organizations could send valuable medical supplies and essential medical workers to these provinces, filling in coverage gaps in North Korea



Methods

I conducted a suitability analysis at the province level which rated provinces on reported on reported household water quality, rates of acute respiratory infections and fevers, unsafe waste disposal practices, and at risk towns and cities based on a 5km buffer around risk-sites such as mines, factories, train stations, etc.

Buffered areas were then sorted based on the number of towns and cities within them, only counting if at minimum there were at least five population centers within the buffer radius.

Population Proximity	0.25
Waste Disposal	0.25
ARI + Fever Rates	0.25
Water Quality	0.25

Conclusion

Based off the data, the most at risks populations are located in North Pyongan and Chagang (Northeastern provinces bordering China), South Pyongan (North of Pyongyang), South Hwanghae (East of Pyongyang), and North Hwanghae and Kangwon (Southern provinces bordering South Korea). These results are not too surprising given the large number of military bases and mines in these provinces. Future research can refine this research once actual data is released at some point. This work was far from complete and suffered a great deal in quality due to unexpected changes caused by Massachusetts quarantine orders.

Coordinate System: GCS_WGS_1984

Sources:

UNICEF DPRK Multiple Independent Cluster Survey, 2017

Tufts M: Drive

Humanitarian Data Exchange

Morgan Choi, Spring 2020, Advanced GIS