

VISUALIZATION AND ANALYSIS OF CELLULAR & TWITTER DATA USING QGIS

INTRODUCTION

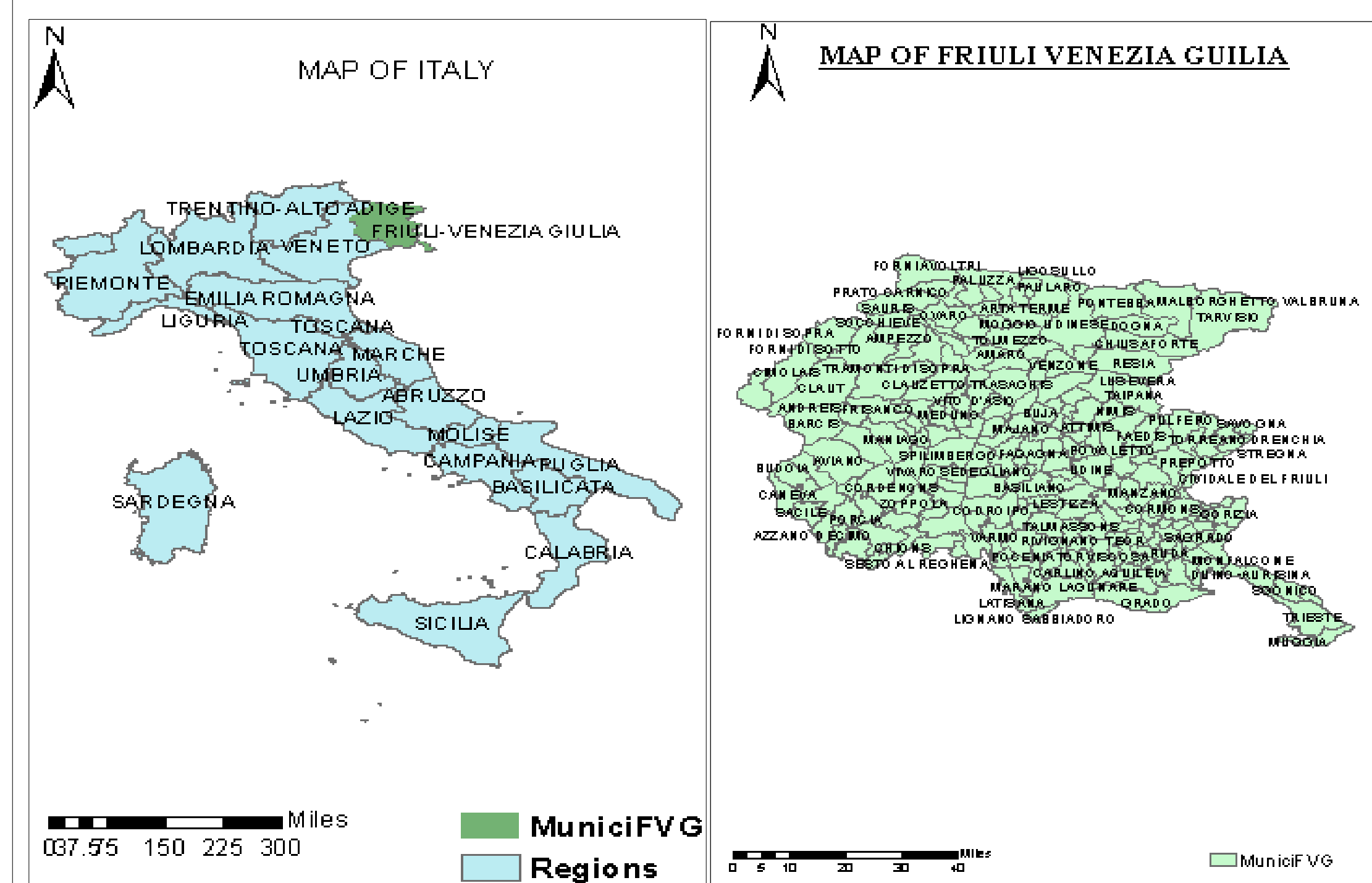
The need for this study becomes necessary, as population increases, the risk due to man-made hazards or actions leading to natural calamities too increases, therefore monitoring the movement of individuals becomes important. Not only hazard management but also for business marketing, implementing government lifetime policies and benefits, we need individual movement and presence. The aim of this study is achieved with the help of demographic and geographical data, which can be obtained by advanced web 2.0 applications. We need real time and geo-located data to come up with efficient evacuation and mitigation strategies during hazard to protect social life and environment with less infrastructure damage, marketing plans for advertising or selling of products. Despite wide spread success in predicting specific aspects of human behaviour by social media information, a little attention is given to twitter and cell phone data. "Twitter" and geographical located "cell phone data" is used to extract demographic information from users in order to understand the behaviour and aspects of human from social media perspective.

AIM AND OBJECTIVES

The aim of this study is to analyse patterns, trends & associations of human behaviour and their interactions.

Objectives: a) **Patterns:** How the presence and movement of individuals vary in the study area. b) **Trend:** How the patterns vary over time. c) **Association:** How various case study and their amalgamation with social media affect the presence and movement of individuals.

STUDY AREA AND DATA USED



Italy is a unitary parliamentary republic country in Europe, with a long Mediterranean coastline. It is bordering with Vatican City, San Marino, France, Switzerland, Slovenia and Austria [6]. It consist an area of 301,338 km 2, has varied temperate seasonal and Mediterranean environment. It is the Fourth populated region of European Union Member state with 61 million inhabitants and 20 regions. Rome is the capital city. Friuli Venezia Giulia is located in North East of Italy region shown in fig.1-2. Its geographical coordinates are 46 0 22' N and 13 0 10' E. It is bordering with Adriatic Sea, Slovenia and Austria. It is one of the five autonomous regions with special statute. It has an area of 7858 km 2 with 1.2 million inhabitants [7]. It has a natural opening to the sea for many central European countries. It encompasses the historical geographical region of Friuli and small historical region of Venezia Giulia. It has sharp peaked dolomite mountains and wine yards producing white wine. Trieste is the capital of Friuli region.

DATA USED: For the study, Italy region, Friuli Venezia Giulia, Roads, House number shape files are used. CSV files of People presence, tweets and Origin Destination flows are also used. Qgis, software is use d for viewing, editing , analyze & to prepare maps

CASE STUDIES

1. GRADO, ISLAND OF THE SUN - Grado is a town in the North Eastern part of Italy. It is a community of Friuli Venezia Giulia. It is mainly a fishing centre but today know as popular tourist destination. It is commonly known as L'Isola del Sole "The Sunny Island". It is famous as spa town because of its thermae and spa services. To estimate the presence of people in beach 9th, 10th and 11th of August 2016 are chosen.

2. FRIULI DOC - Friuli Doc is a wine and annual food event held in Udine since 1995. This event is for four days 8 - 11 September. This event consist of food, wine and craft stands. This event accompanied by various initiatives such as tasting, demonstrations & workshops, presentation & conferences, exhibitions & street performances. To understand the presence of people in Udine during event & non-event day, 3, 4, 10&11 of September 16 preferred.

3. CANTINE APERTE - Cantine aperte is an open cellar, most important wine tourism event in Italy. This event occurs on May 27 and 28. Movimento Turismo del Vino organize this event to personally meet the public. In 2016 event took place in Pordenone. To know the presence of people during the day of the event and non-event day which is may 21 and 28 of 2016 at 6pm are considered.

CONCLUSION

The case studies which were opted in this study, were real time scenarios in our daily life. These varied cases help in analyzing individual presence and association with their surroundings and activities. It help in determining their interaction with events or causal activities and their trend line. It also been used for learning individuals to and fro places and count of flow happening between places. All the case studies were helpful in answering the above stated reasearch questions. It was also helpful in deterring the degree of acceptance for considering tweet feed as reliable proxy for presence of individuals.

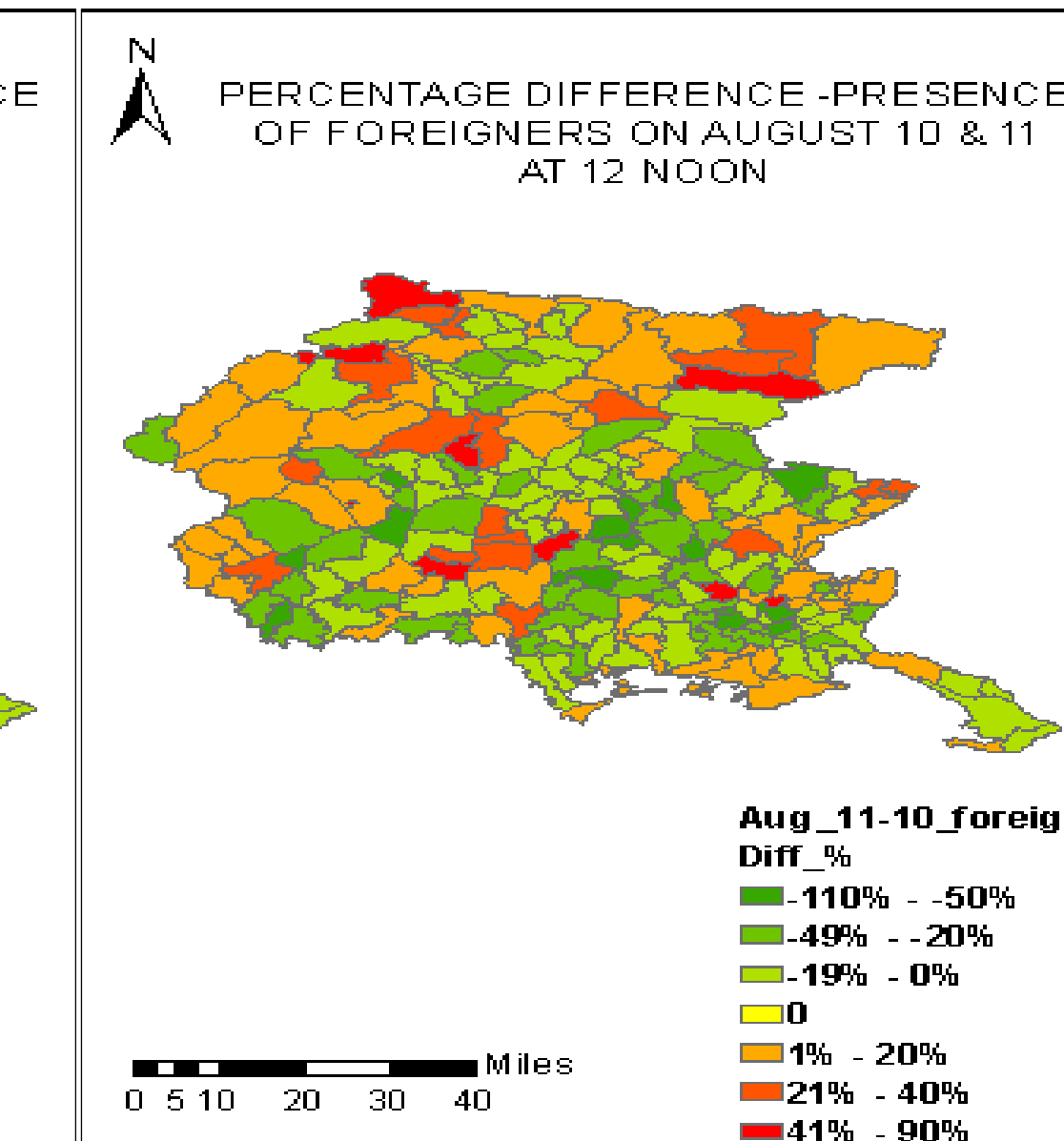
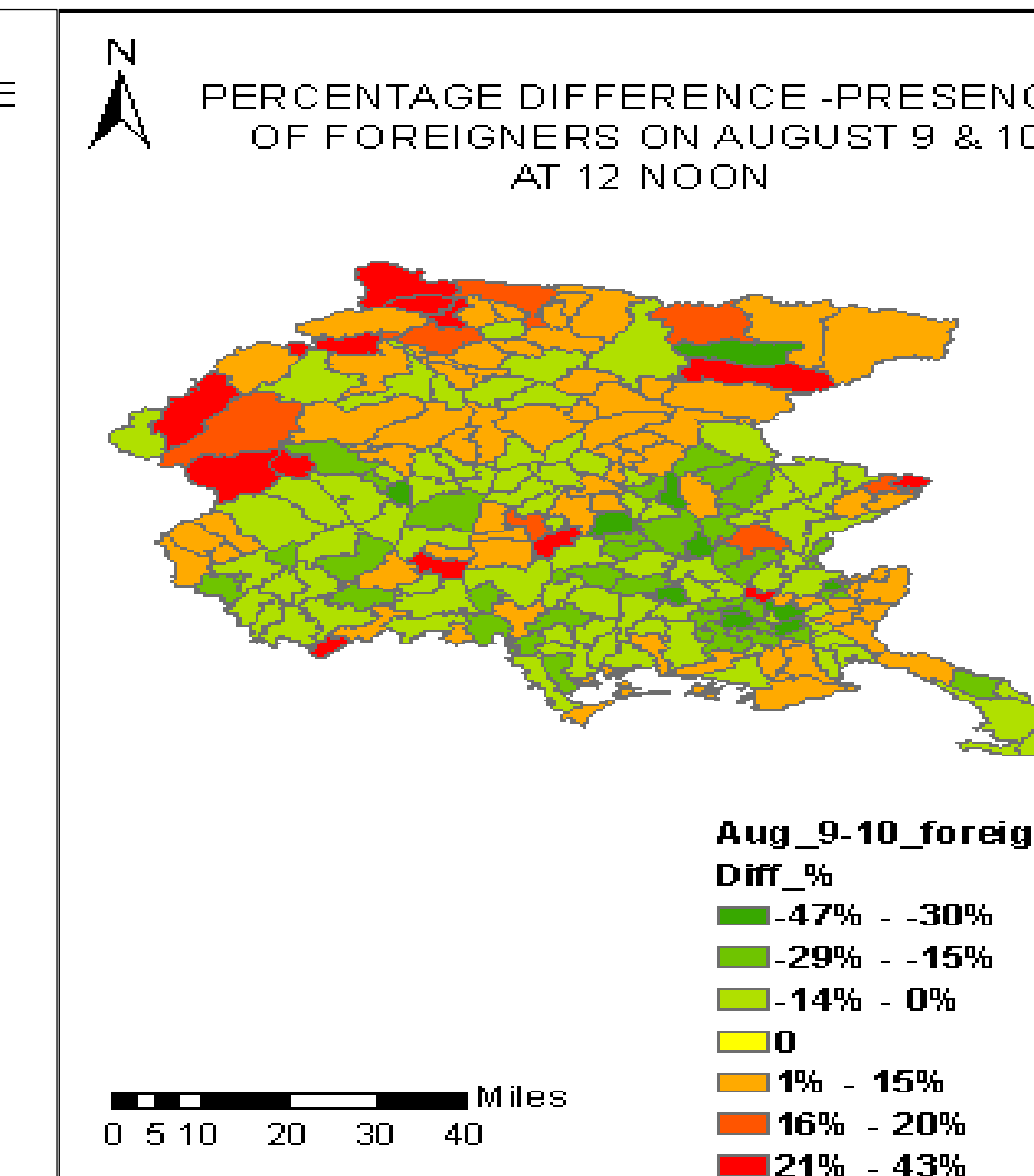
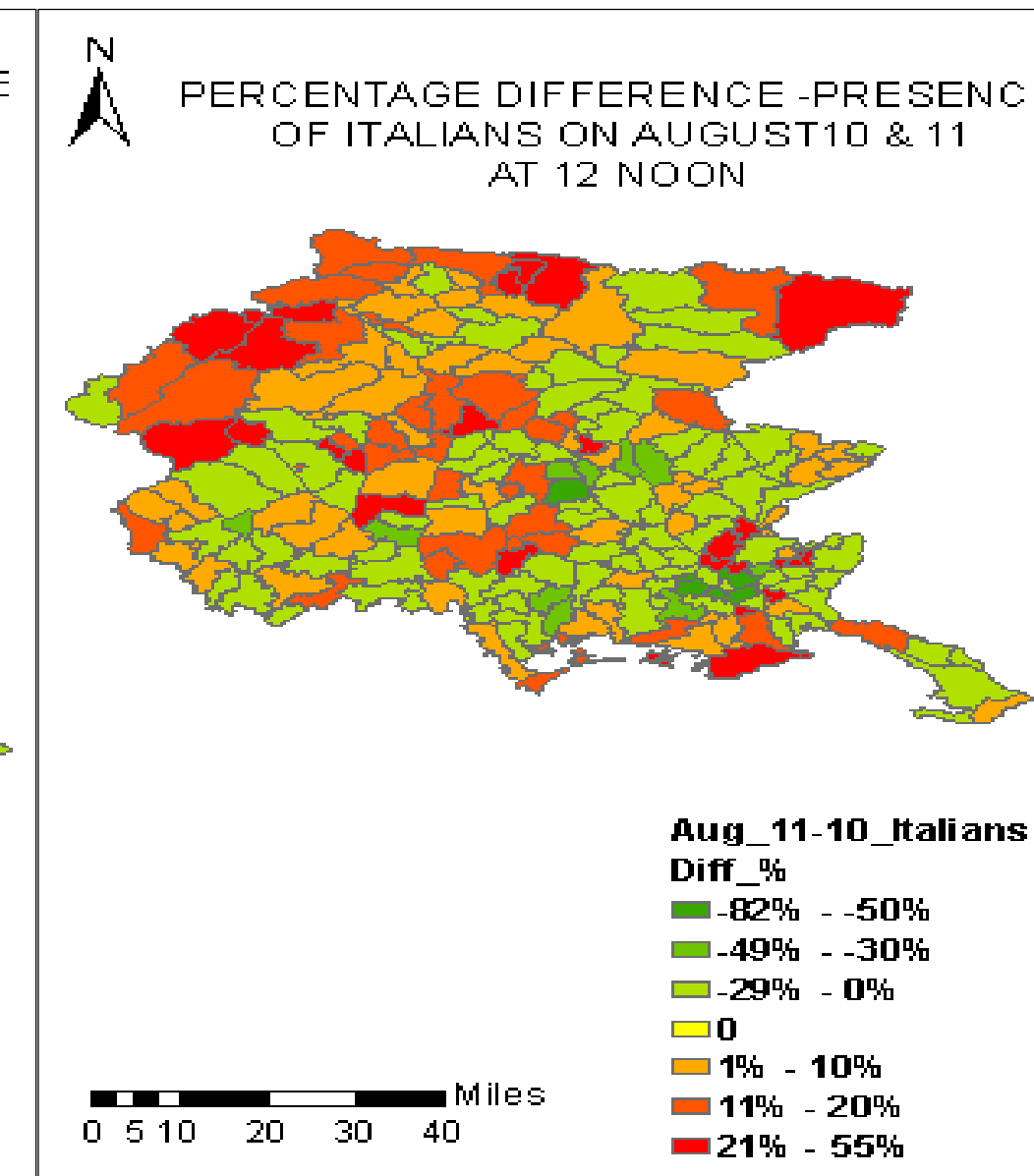
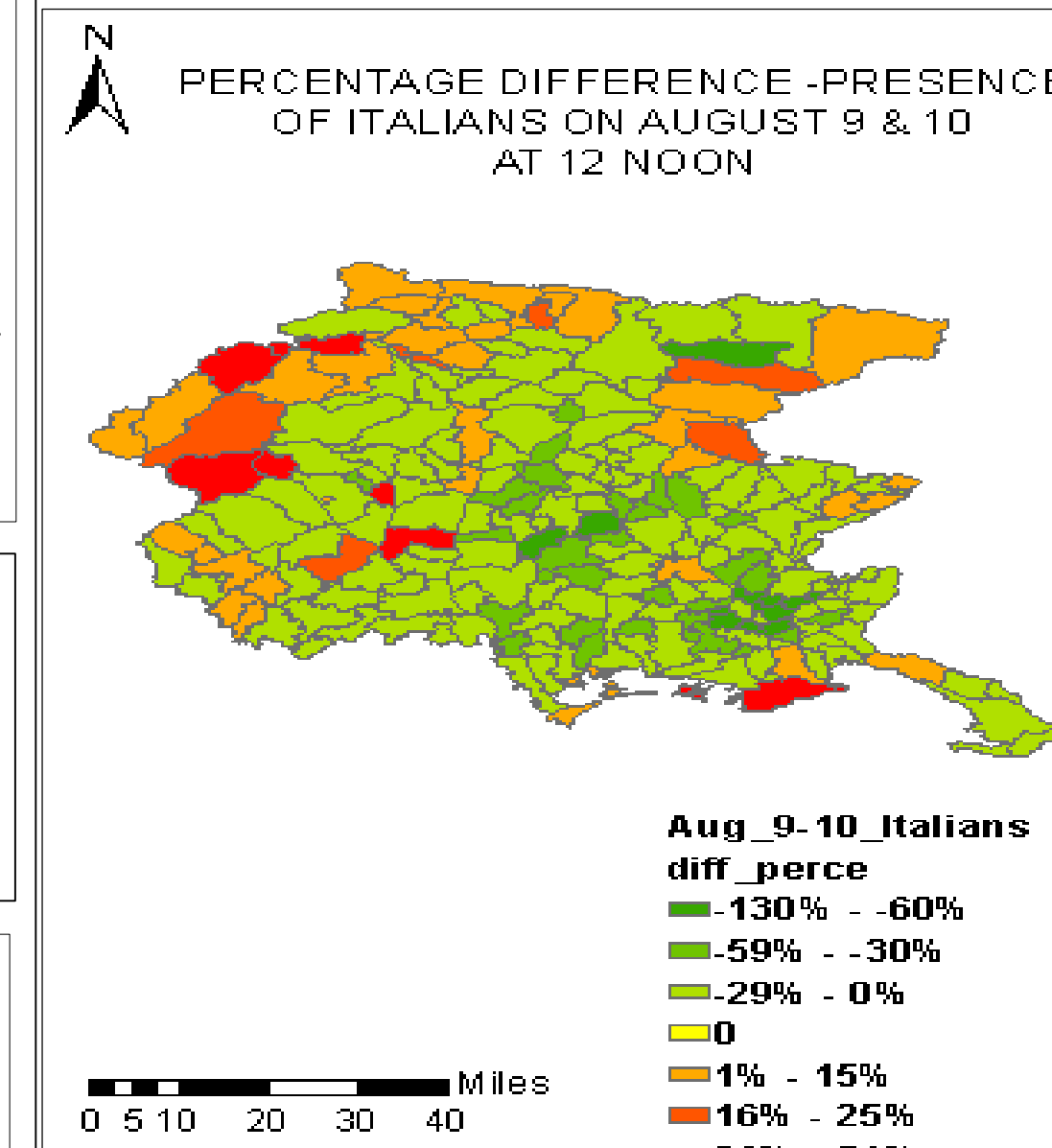
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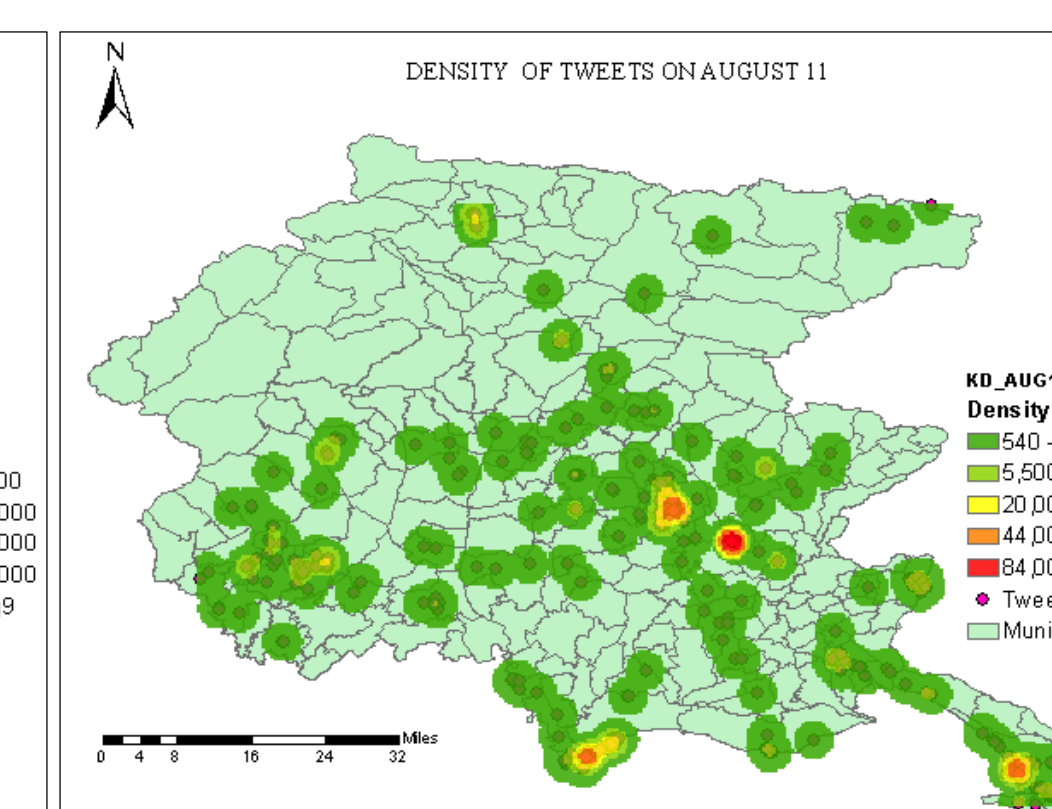
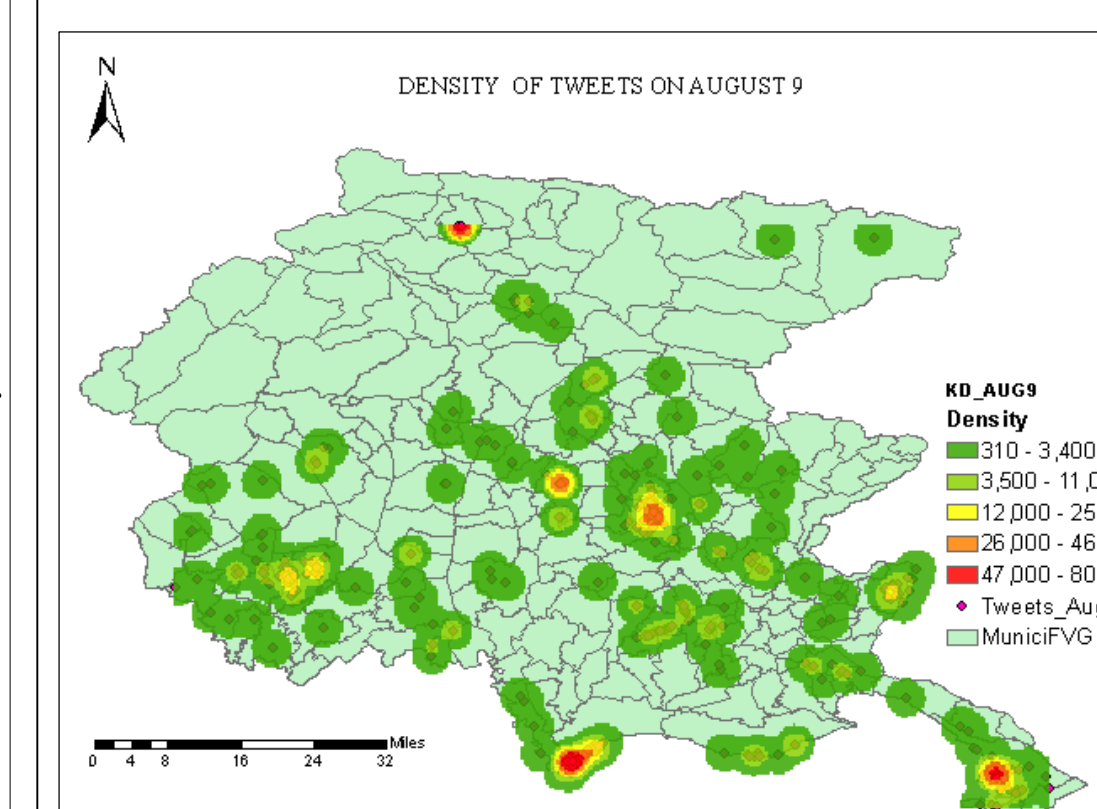
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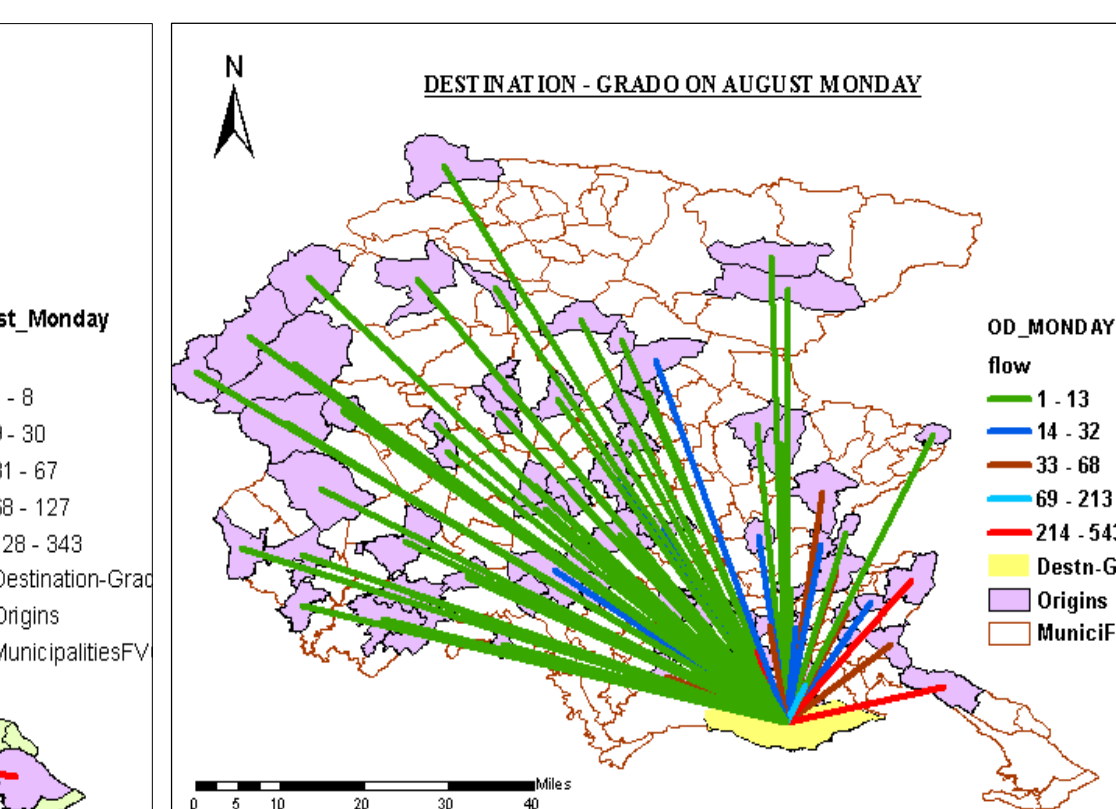
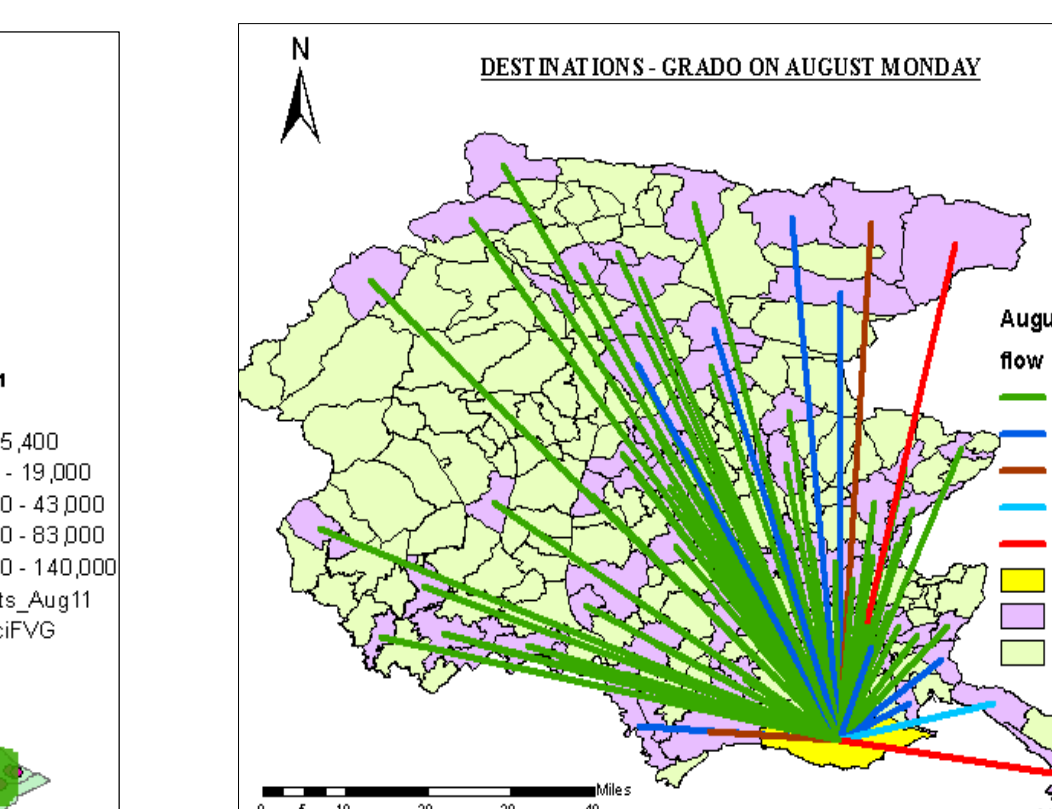
CASE 1 THEMATIC MAPS



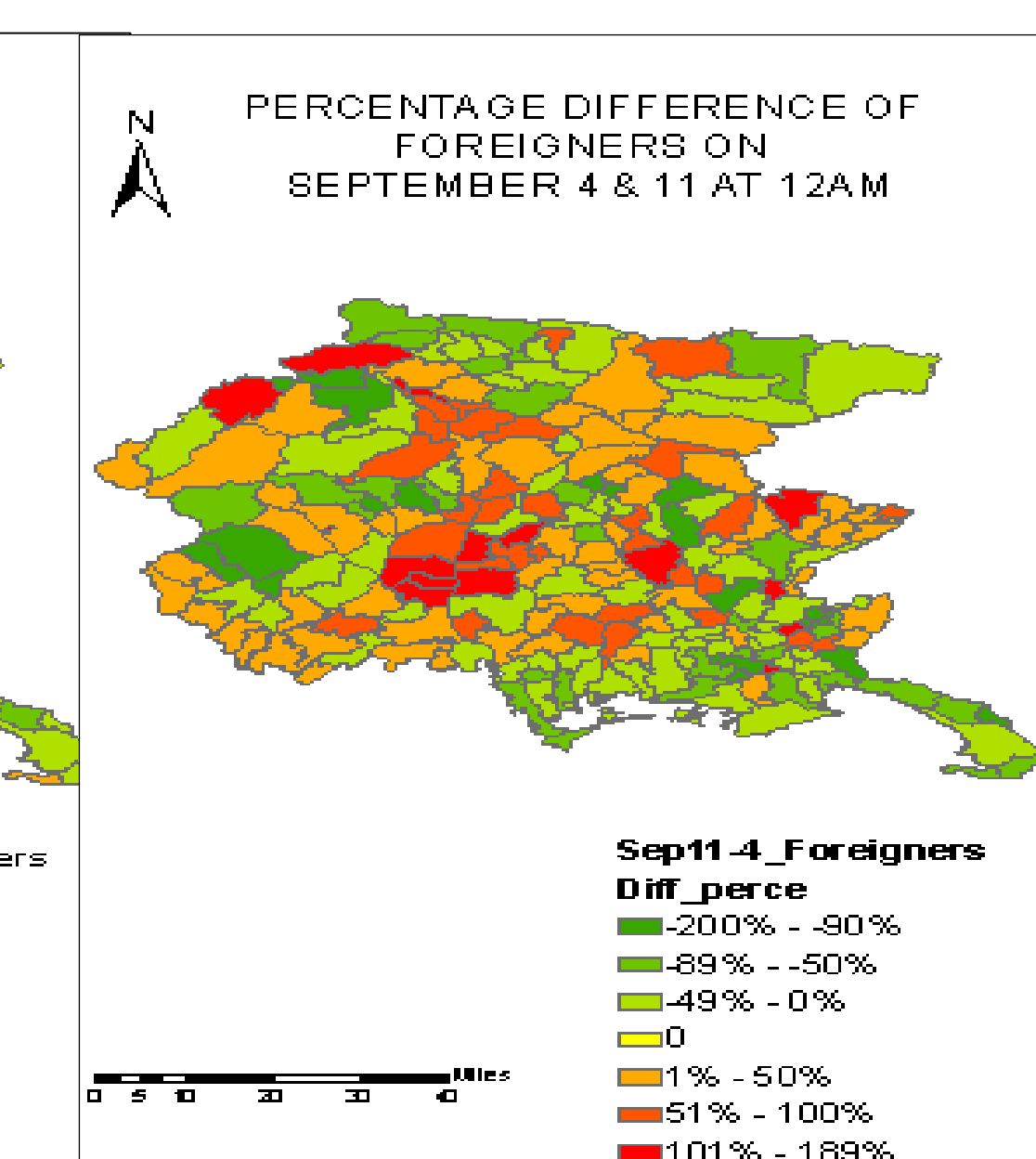
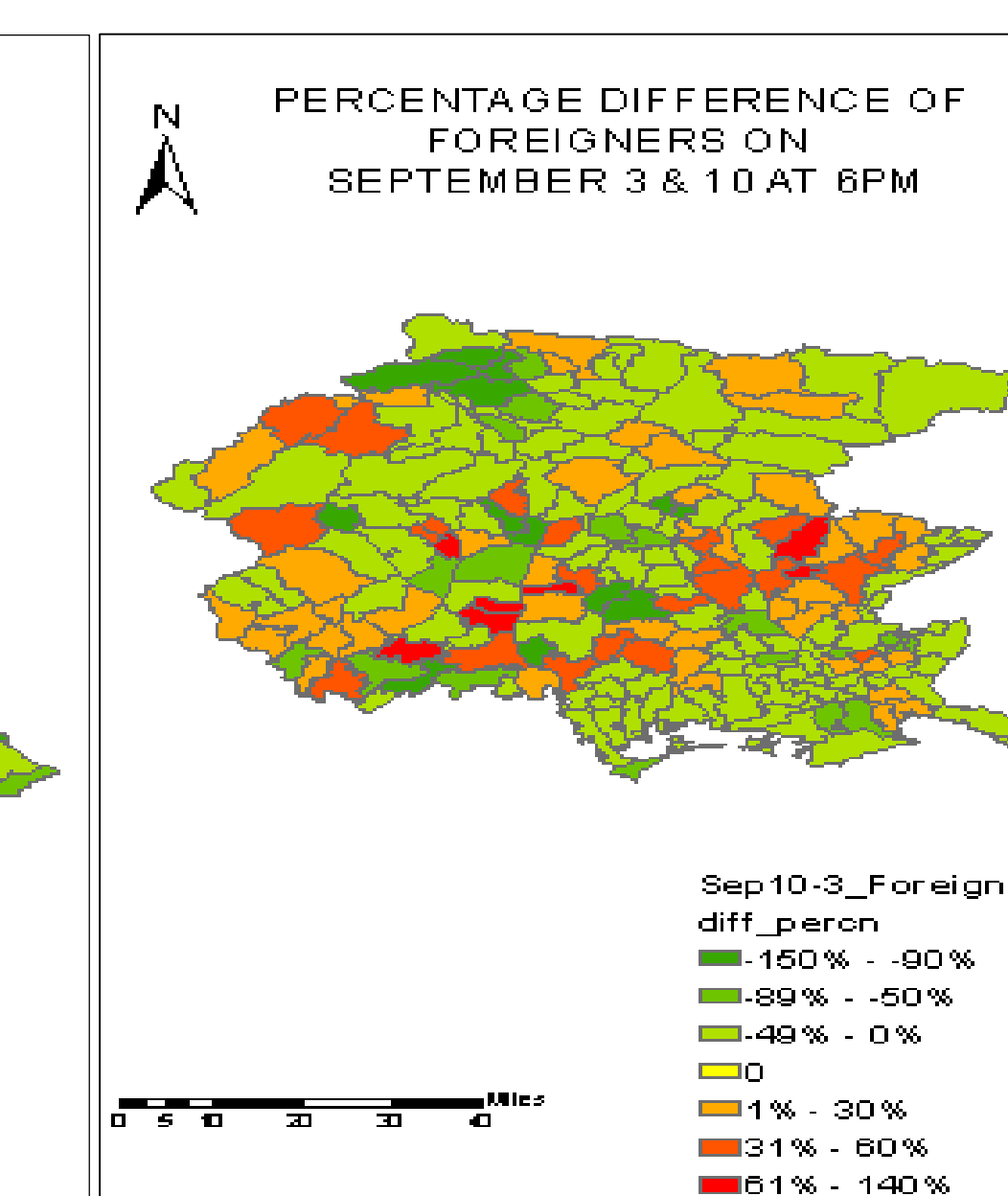
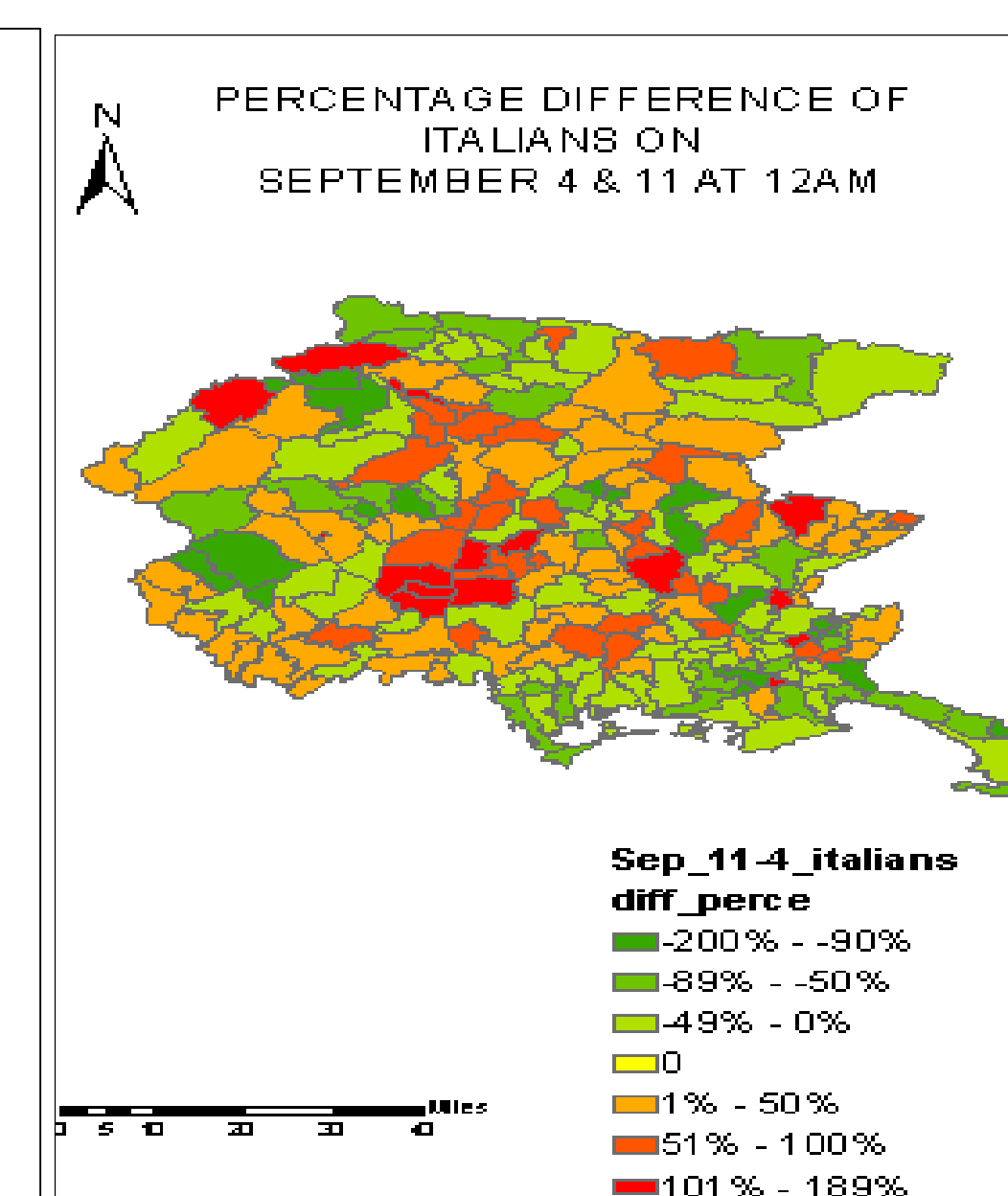
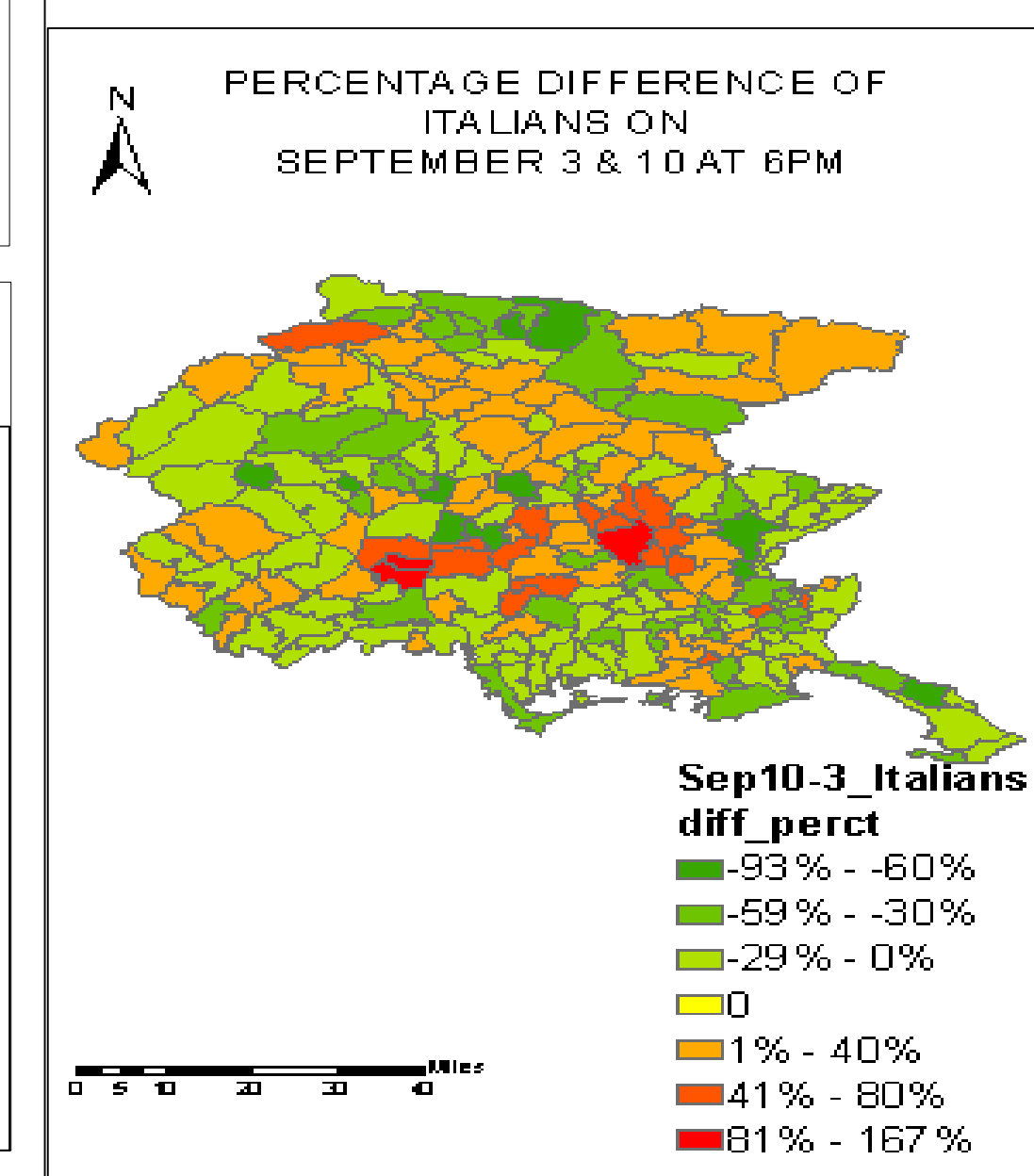
TWEET DENSITY



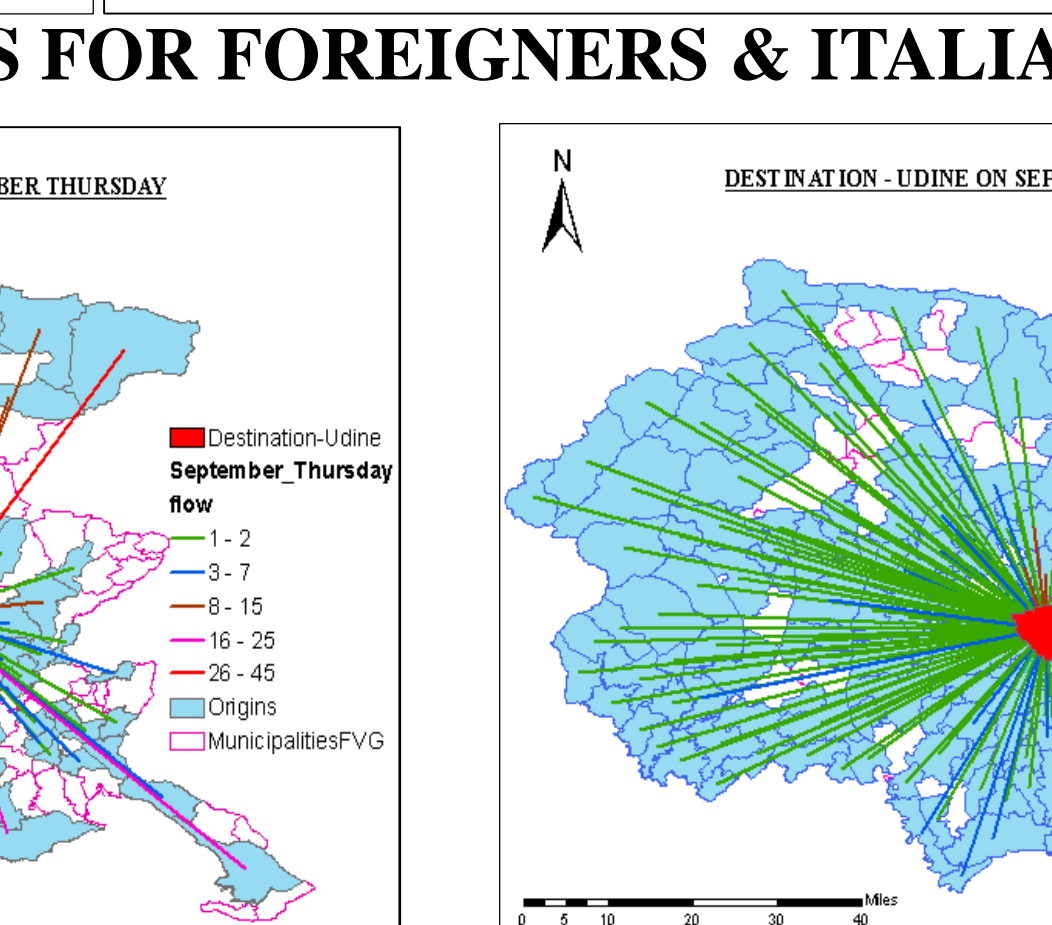
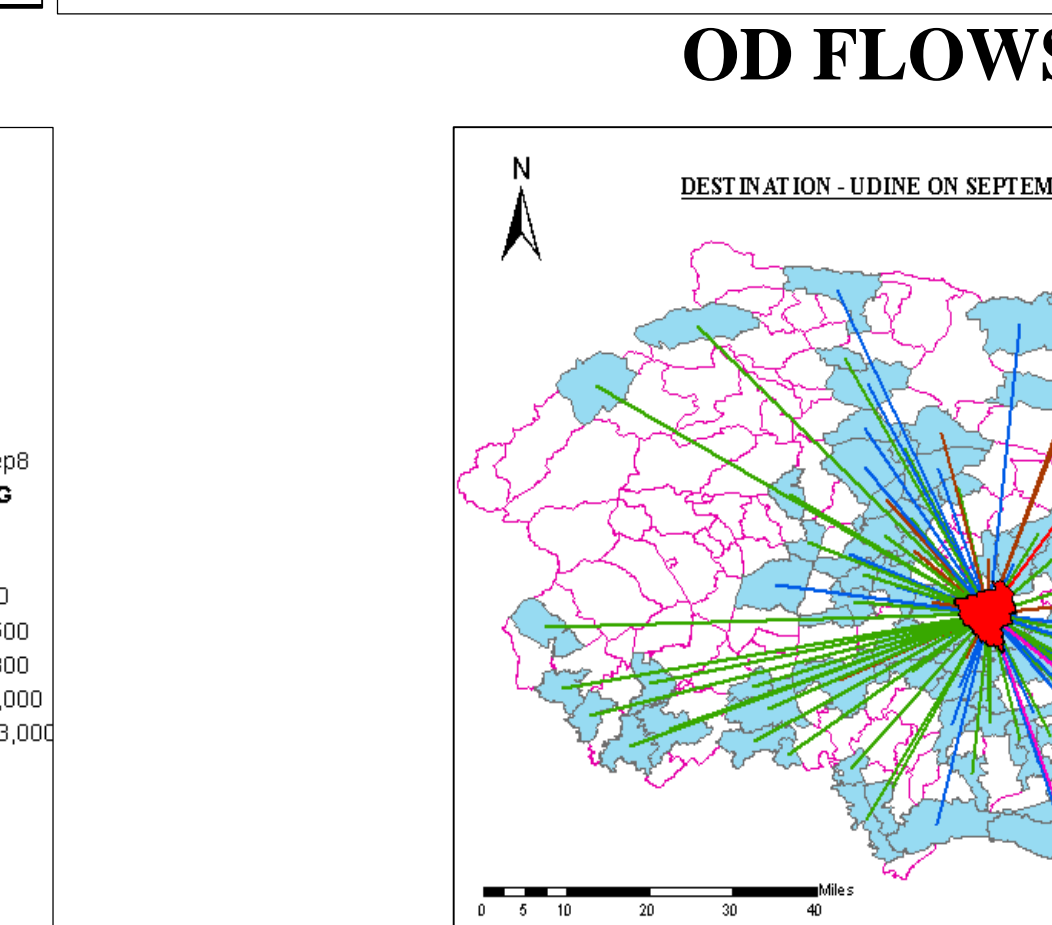
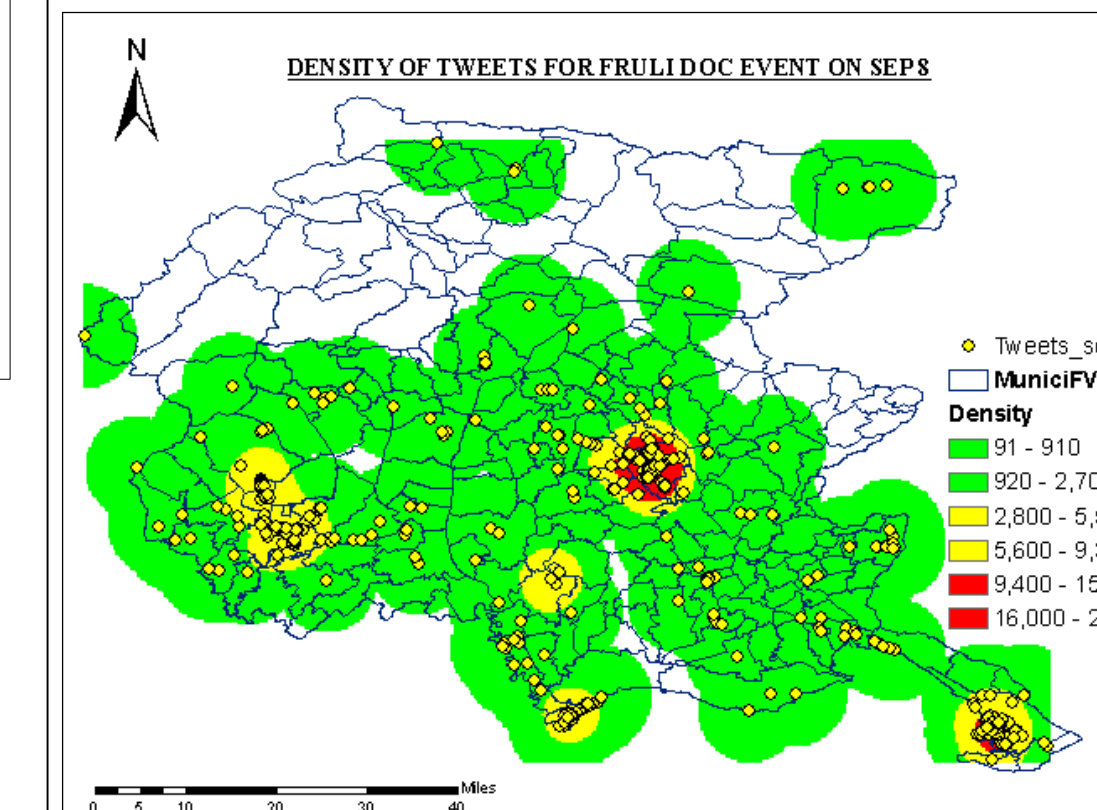
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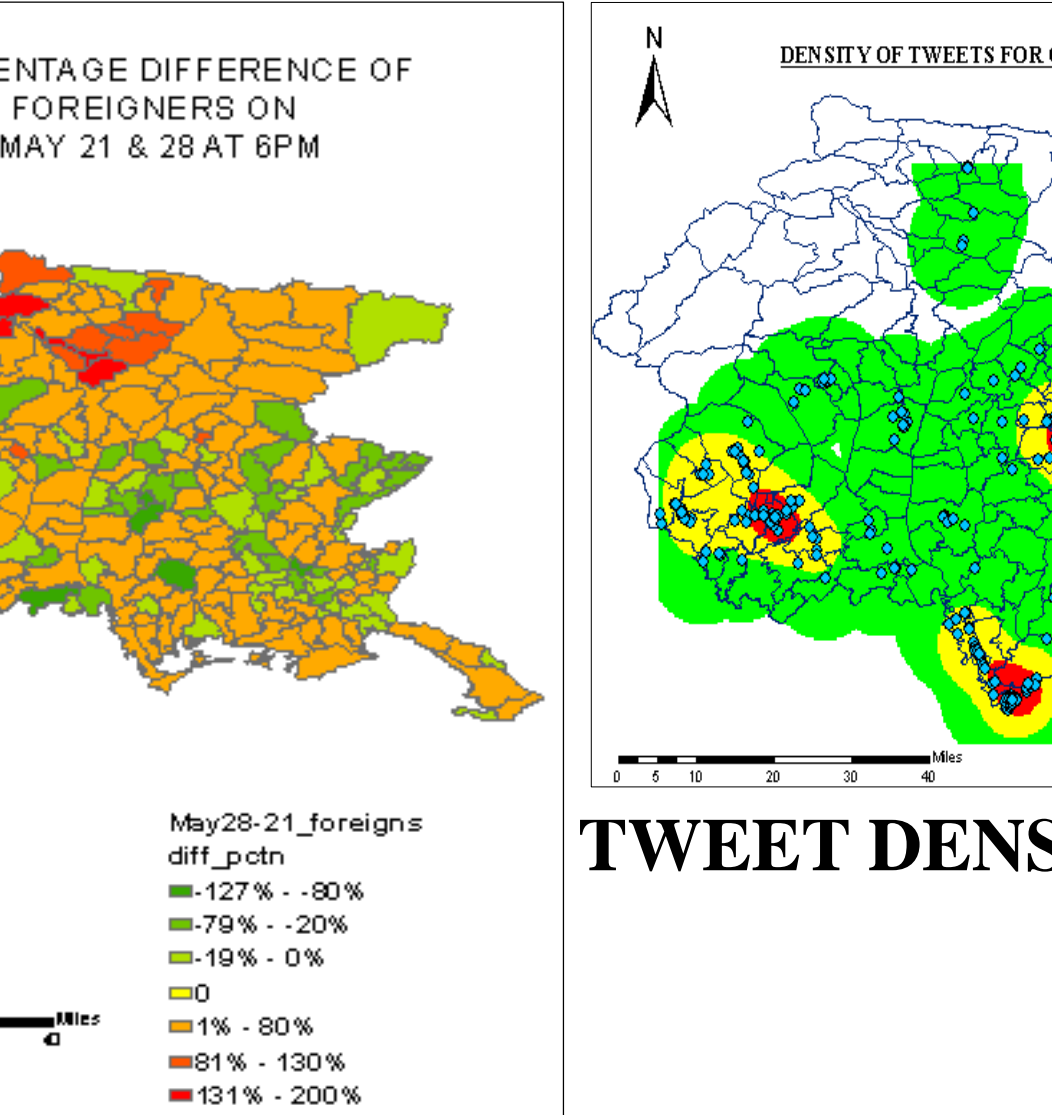
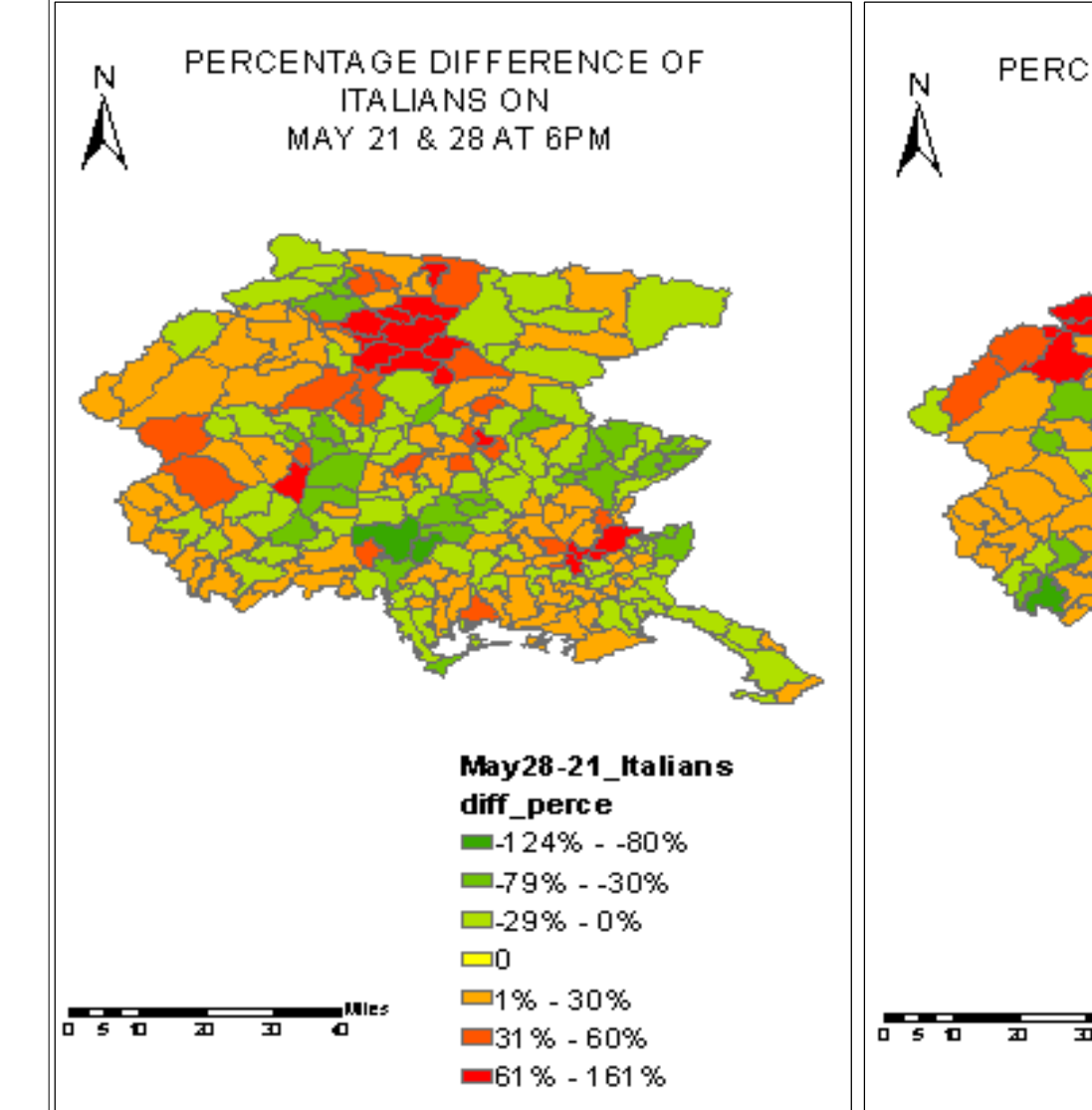
CASE 2 THEMATIC MAPS



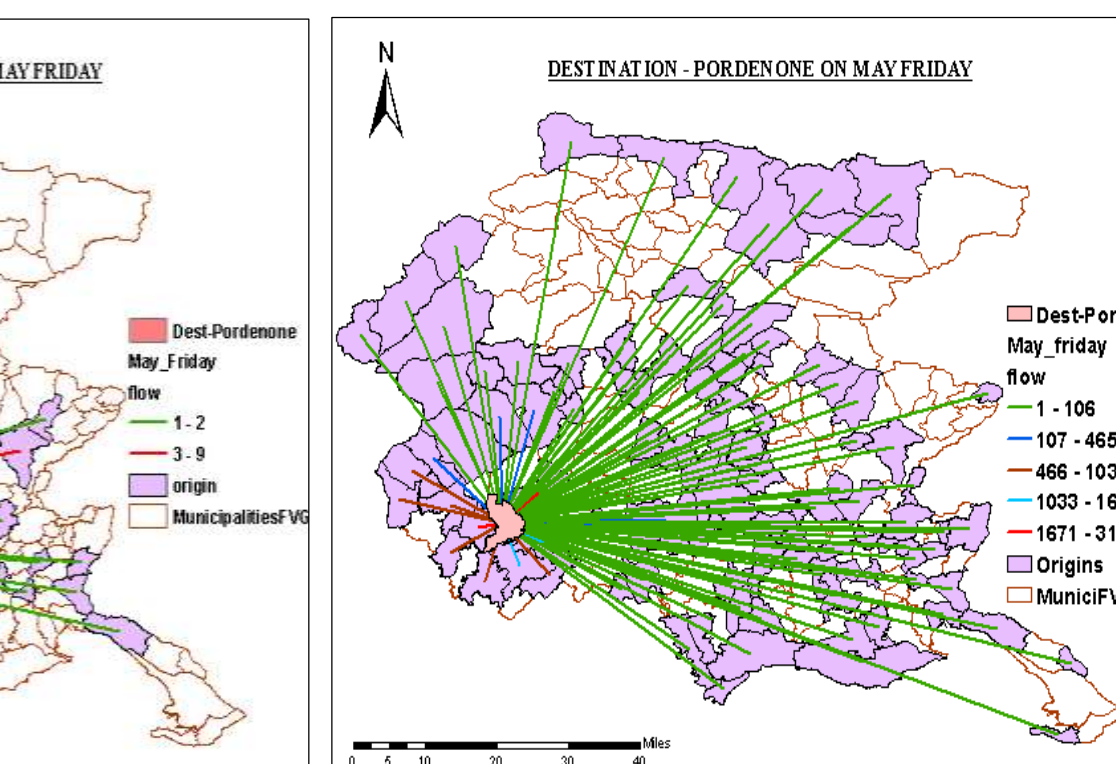
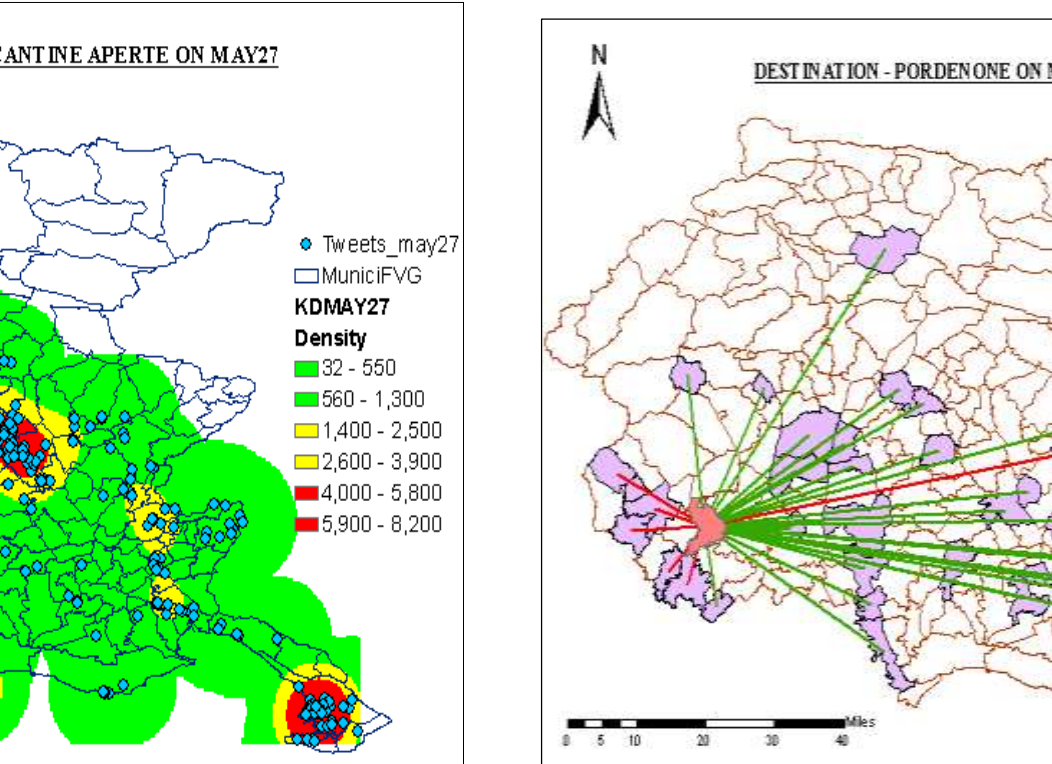
TWEET DENSITY



CASE 3 THEMATIC MAPS



OD FLOWS FOR FOREIGNERS & ITALIANS



TWEET DENSITY