

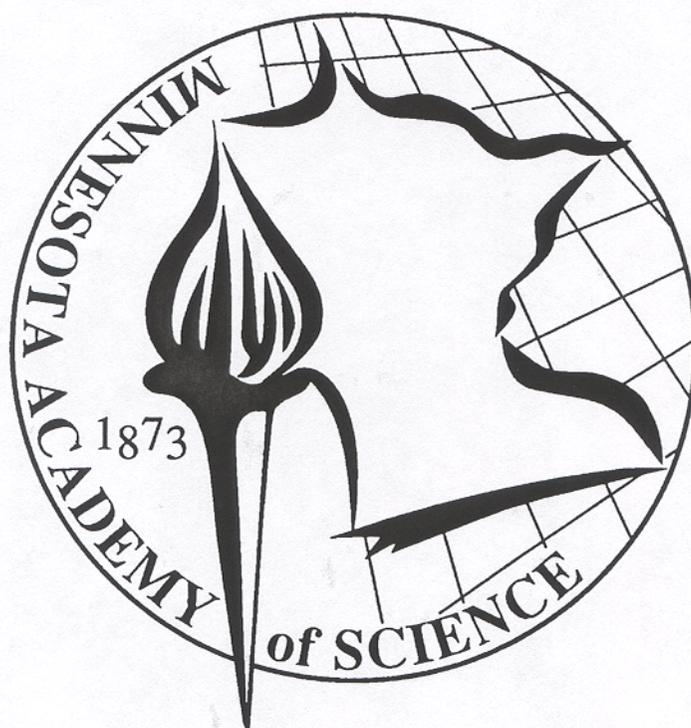
Journal of the Minnesota Academy of Science

71st Annual Meeting

hosted by the

University of Minnesota

April 25-26, 2003



Spring 2003

Vol. 67, No. 1

USING GEOGRAPHIC INFORMATION SYSTEMS TO LOCATE SUCCESSFUL FUTURE JIMMY JOHN

Ciao Malta

*University of St. Thomas, JRC 432, 2115 Summit Ave,
St. Paul, MN*

A GIS technique is used to construct demographic profiles of seven successfully-established franchises to better locate more stores. This study uses GIS to analyze successful Jimmy John's sub shop locations and their corresponding demographics within the Twin Cities Metropolitan Area. Jimmy John's is a privately owned Illinois based chain of Gourmet Sandwich shops currently operating seven stores in Minnesota. Specific customer data for these locations is undisclosed, making the demographic profile for a new location unknown. Hence, this study proceeds in the following manner. Computing drive-time polygons identifies trade areas for the seven current locations, which in turn are intersected with U.S Census Bureau block group demographic data. Once this intersection is performed, the specific demographics of the trade areas are known. Following that, GIS is used to find other locations with similar characteristics. Competing sandwich shops are also mapped. The result is a map of the right demography and areas not saturated with competition, suggesting areas to open successful future Jimmy John's.

THE HOLOCAUST IN LITHUANIA: AN EXAMINATION OF THE HISTORICAL GEOGRAPHY OF JEWISH COMMUNITIES

Amanda Peterson

Gustavus Adolphus College.

Researchers of the Holocaust often encounter toponymical problems related to territorial changes, subsequent orthographical modifications, and simple misinterpretations and errors of the human mind. To clarify and make more accurate the geography of the Holocaust, the United States Holocaust Memorial Museum initiated a research project examining the historical geography of Jewish communities in Lithuania.

A geographical database of the Holocaust in Lithuania was deemed necessary for numerous reasons. Throughout the 20th century, the country has undergone more than ten territorial changes; every border change resulted in toponymical and/or orthographical changes. Also, variations of names and spellings of the same place names in different languages, and even in Lithuanian itself provide reason for a special database. This also would help to clarify between multiple places with identical place names. Additionally, the misinterpretation of the place names due to individual peculiarities of human memory, as well as simple mistakes, largely contributes to inaccurate geographical information for the Holocaust. The database created in the Museum's Registry of the

Holocaust Survivors reflects all "moving" of places between different countries as well as all official and numerous unofficial names of Jewish communities in Lithuania.

Also, we examine various discrepancies between the maps used for researching the historical geography of Lithuania - maps published in the same year but in different countries reveal different boundary lines and numerous orthographic differences. The Lithuania project serves as a pilot project for a much larger goal: the prospective creation of a geographical dictionary of the Holocaust.

SOIL AND WATER CONSERVATION SYMPOSIUM

SOLUTIONS FOR GROWING PROBLEMS: AGRICULTURE, CONSERVATION AND ENVIRONMENT Johnson J.

*USDA-ARS, North Central Soil Conservation Research
Laboratory, Morris, MN*

As a global society we are facing many challenges: greenhouse gas emissions, global climate change, limited fossil fuels, declining ecological diversity, food production/distribution and population growth-finite resources. Modern agriculture contributes to both the problems and the solutions. The green revolution resulted in dramatic increases in food production, but has not eliminated world hunger. Greenhouse gases are those that reduce the Earth's ability to loss energy to space. Natural gases that contribute to greenhouse gases include water vapor, carbon dioxide, ozone, methane and nitrous oxide. Burning and plowing of forests, annual tillage release carbon dioxide into the atmosphere, methane from rice paddies and cattle, nitrous oxide from fertilized fields add to the greenhouse gases, but production of biomass and conservation practices that build soil organic matter help to remove greenhouse gases. Research is being conducted to help balance ecological impact and economical needs and goals of agriculture. Organic farming systems, alternative crops, and viable rotation options are receiving increased attention. Research to find the farming systems that maximize carbon storage and minimize the release of nitrous oxide are being established across the US. Biotechnology is being utilized to better understand crop physiology as well as the development of GMO's. Biobased products (biodiesel, ethanol, coproducts, methanol collection) can reduce dependence on petroleum-based products. It is also important to take personal responsibility to solving these global problems. Exercise your power as a consumer and voter. Make a conscious effort to reduce your waste, recycle, and conserve energy and natural resources.