

Where Floridians Bury Their Dead:

An analysis of cemetery placement



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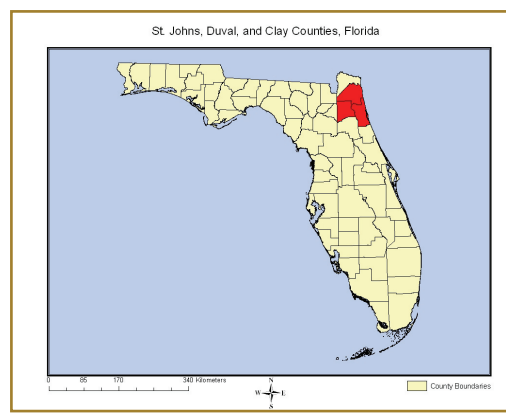
Introduction

The selection of a location for the placement of a burial ground hinges on many factors—both physical and social.

The physical aspects include availability of unused land, soil content and vegetation coverage for simplicity of clearing and digging, and ease of access from the surrounding area to the burial location.

The social factors include different ethnic and religious groups with varying customs involving the disposal of their dead.

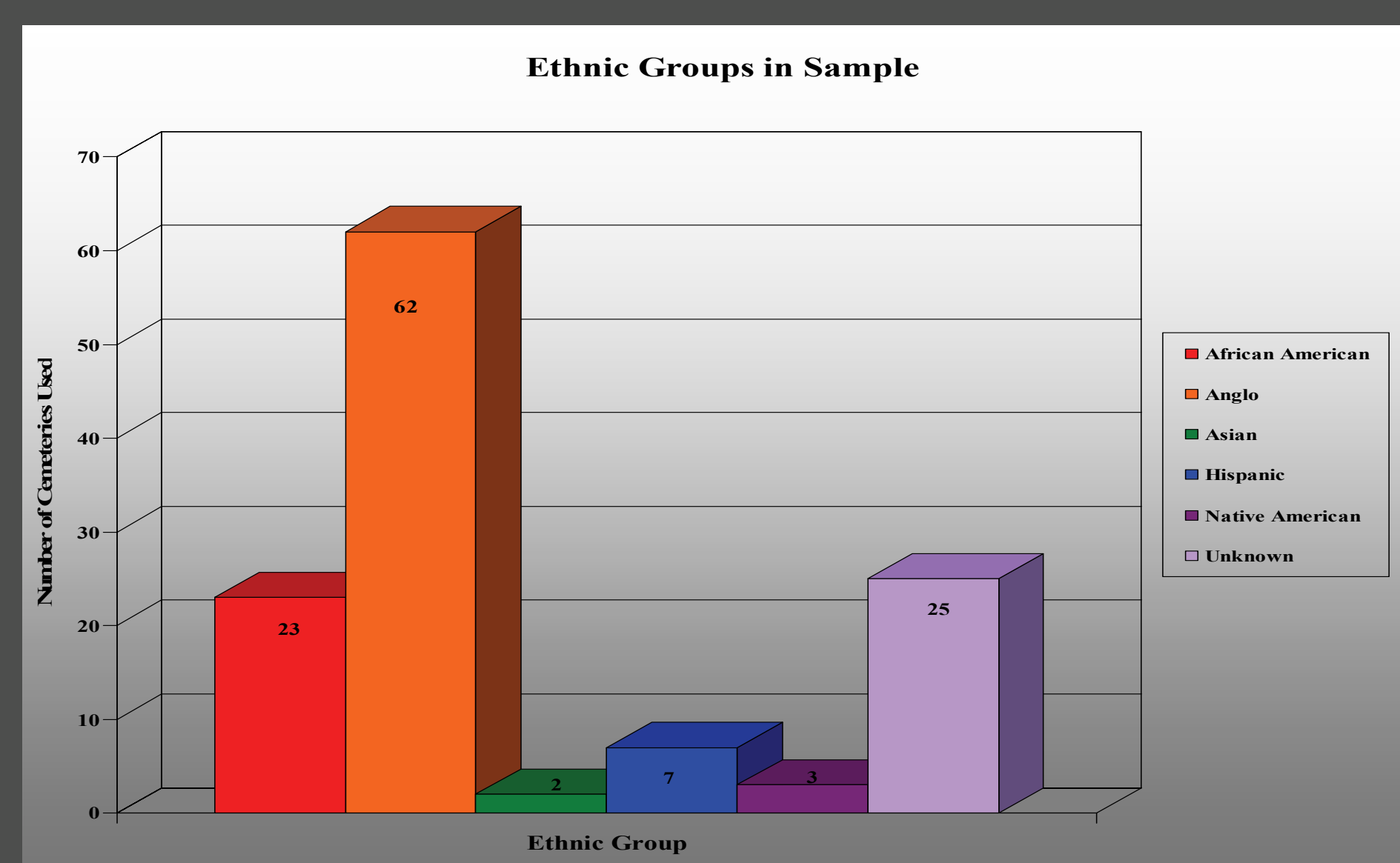
This project analyzes the physical factors involved in the placement of pre-1900 burial grounds, in the tri-county area of St. Johns, Duval, and Clay Counties, Florida, from a prominence and hydrological perspective.



Sample

Within the sample area chosen for this project, there are 86 cemeteries established before 1900.

The database includes up to four ethnic designations per cemetery, but the percentage of burials of each ethnic group within the cemetery is not shown.



Methods

Data Collection

The hydrological and historic cemetery data files were obtained from the Florida Geographic Data Library housed by the University of Florida GeoPlan Center (www.fgdl.org).

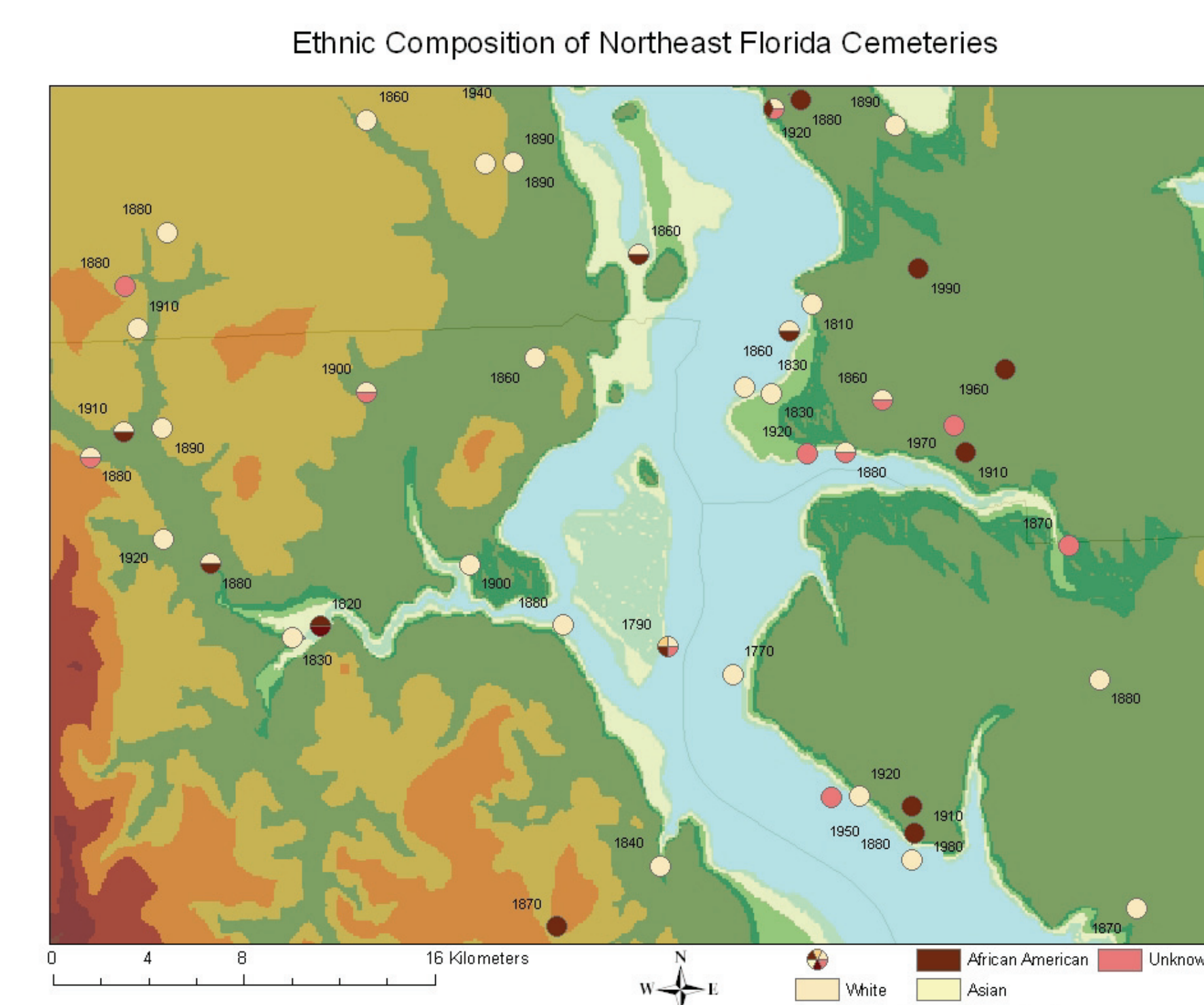
The U.S. Geological Survey (USGS) site supplied the digital elevation model (DEM).

Data manipulation

- **Elevation** – The elevation symbology for the tri-county area was categorized into 16 groups. Since most of Florida is close to sea level, the first five groups were defined (in meters) as 0-1, 2, 3, 4, and 5. The remaining eleven groups (6–15) were in sets of 10 meters.
- **Hydrology** – Hydrological features such as industrial runoff ponds were removed from the data, as these would not have been extant in the 1800s.
- **Historical Cemeteries** – The historical cemeteries data contained boundaries and basic demographic information.

A random sampling of cemeteries was verified against 7.5-minute quad maps to ensure that the locality data for the cemeteries was precise.

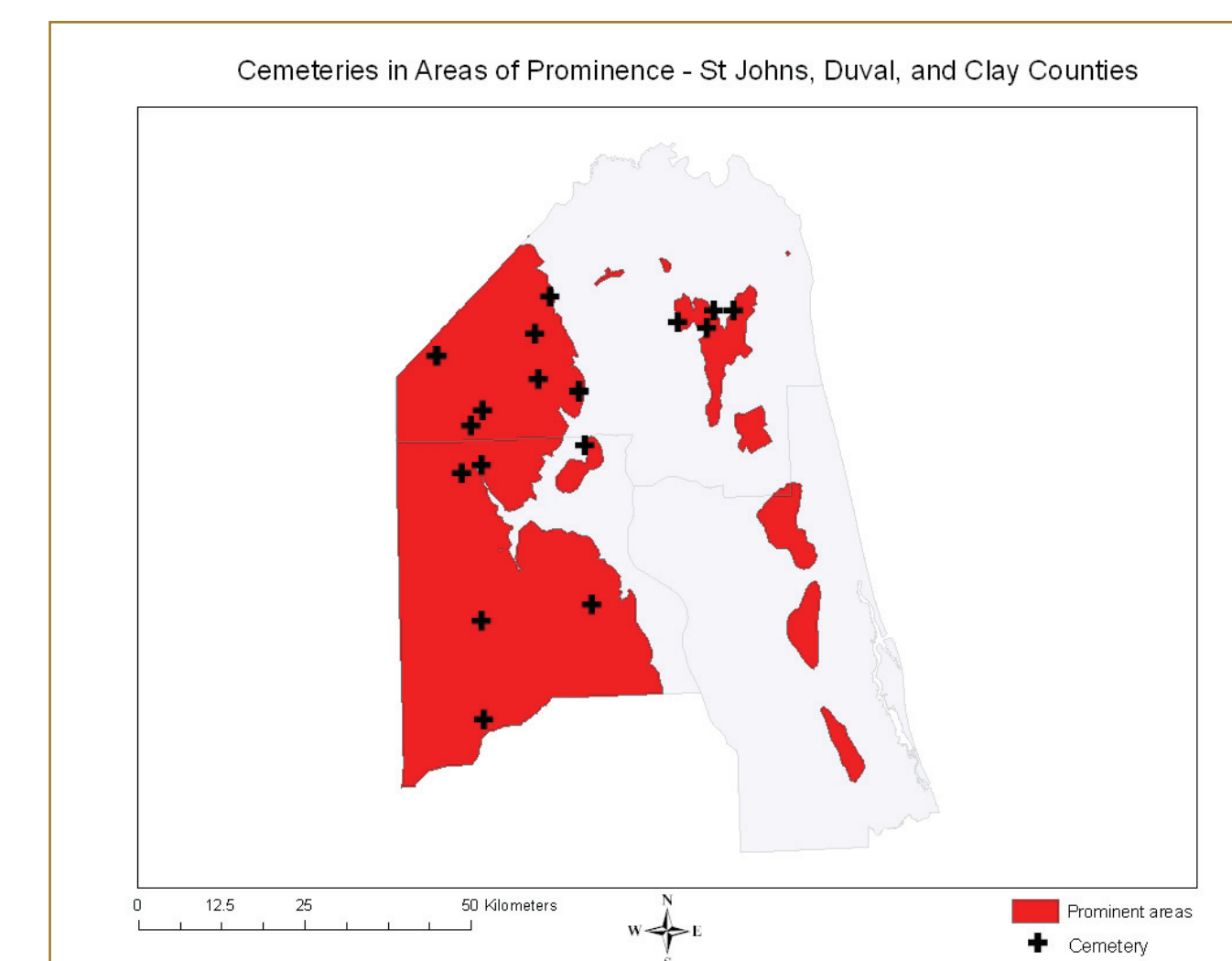
The tri-county subset of data was then manipulated to fill attribute fields for six ethnic categories (White, Native American, African American, Hispanic, Asian, and Unknown).



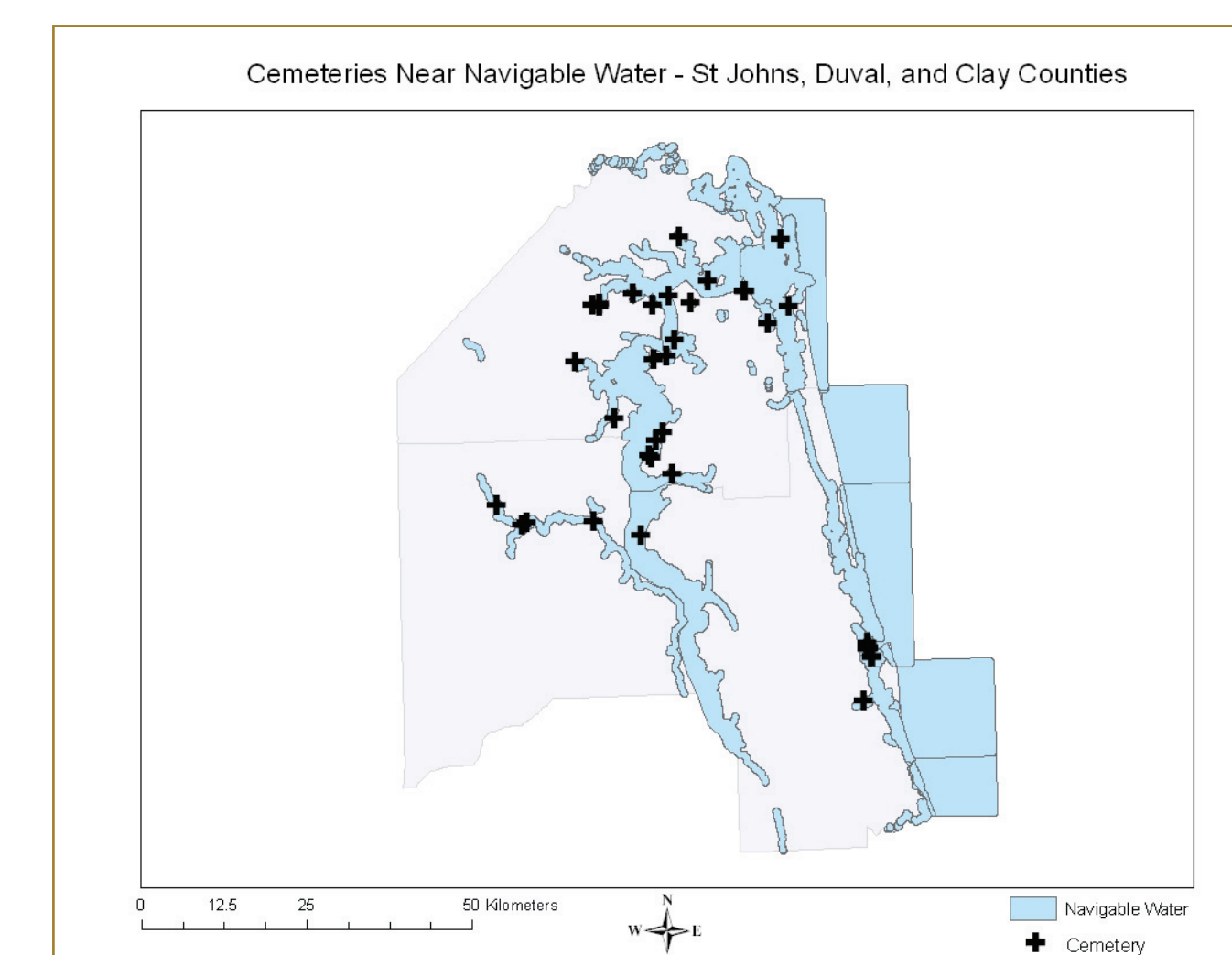
Analysis

Two geographic attributes—prominence and distance from navigable water—are the basis of data analysis for this project.

Prominence was determined using focal statistics—selecting locations based on the highest point within a neighborhood—defined for this project as a circle of ½ kilometer diameter. Florida is low-lying and relatively flat, so prominent areas were 10 meters and above.



Navigable water included bays, estuaries, gulfs, oceans, seas, channel in water area, ditch or canal, stream, and mangrove area. A buffer of ½ kilometer was created around the feature group. The majority of navigable waterways are in the St. John's River and its tributaries.



Statistical analysis using ratios is not enough to determine if there is significance in the values. For this project, the chi-squared test was used to compare the ethnicities to prominence and closeness to navigable water.

From the original 86 pre-1900 cemeteries in this tri-county area, 49 (57%) are located near navigable water and 19 (22.1%) are in an area of prominence. The remaining 18 (22.9%) do not fall into either category.

Results

The chi-squared values for the five ethnic groups for both prominence and nearness to navigable water show two trends.

The prominent Anglo cemeteries chi-squared value of 2.824 shows a marginal significance for Anglo cemeteries on prominent land.

The Native American cemeteries near navigable water are also significant. The value of 3.433 equates to an approximately 92.5% confidence level.

Ethnic Group	Prominence chi-squared	Navigable water chi-squared
African American	0.191	0.187
Anglo	2.824	0.029
Asian	0.530	0.006
Hispanic	1.959	0.063
Native American	0.805	3.433

Since 100% of the Native American burials in the sample were close to navigable water, a check was made for the remainder of historic Florida cemeteries containing Native American graves. The database contains ten cemeteries with Native American burials and the hydrological data for these counties was processed to include the standard 500-meter buffer. Seven of the ten cemeteries fell within the 500-meter tolerance.

Conclusion

Two trends are visible in regards to ethnic group and locations for pre-1900 cemeteries in the tri-county area of St. Johns, Duval, and Clay Counties.

Anglos used most cemeteries in areas of prominence. The variation of ethnic groups around navigable water was better proportioned with Native Americans using a higher percentage of cemeteries within 500 meters of navigable water.

Future Research Opportunities:

- Determine the ethnic group responsible for creating the cemetery versus a group's selection of *using* it
- Expand the research to include a larger region